



FY 2005 TRAINING CATALOG

AND RESOURCE GUIDE

FEMP Workshops for:

- Federal Facility Energy and Water Managers
- Associated Contracting Personnel

Important Energy/Water Management Conferences



U.S. Department of Energy

Energy Efficiency and Renewable Energy

Bringing you a prosperous future where energy is clean, abundant, reliable, and affordable.



MISSION STATEMENT

FEMP increases energy security and reduces the cost and environmental impact of the federal government by advancing energy efficiency and water conservation, promoting the use of distributed and renewable energy, and improving utility management decisions at federal sites.



U.S. Department of Energy

Energy Efficiency and Renewable Energy

Bringing you a prosperous future where energy
is clean, abundant, reliable, and affordable

For more information contact:
EERE Information Center
1-877-EERE-INF (1-877-337-3463)
www.eere.energy.gov

WELCOME TO FEMP TRAINING FOR FISCAL YEAR 2005!

Since the enactment of the Energy Policy Act of 1992, FEMP has been providing training in facility energy and water management for federal agencies.

The FY 2005 Training Catalog and Resource Guide describes the 15 FEMP courses and provides workshop schedules and contact information. Classroom workshops are rotated around the country; for those who are not able to travel, there are: the Energy Management Telecourse (and video tapes), which summarizes six FEMP courses via satellite broadcast; the FEMP Lights self-paced Web course; and the Distributed Generation and Combined Heat and Power Web course.

Are you wondering what training you should take first? Go to the “Users Guide to the FEMP Training Program” on page 2, and the sections on the statutory basis for FEMP training and areas of required expertise on pages 42-46. Options to address the possibility of serious natural gas shortages this winter will be included in the Evolving Energy Markets Workshop and the Utility Energy Services Contracting Projects Workshops. The provisions of the “Energy-Efficient Standby Power Devices” Executive Order will be discussed in the Buying Energy Efficient Products Workshop.

Courses are continuously updated for technology and policy developments.

Most FEMP workshops are free for federal attendees. Personnel from state and local governments and from the private sector are welcome for most workshops on a space available basis.

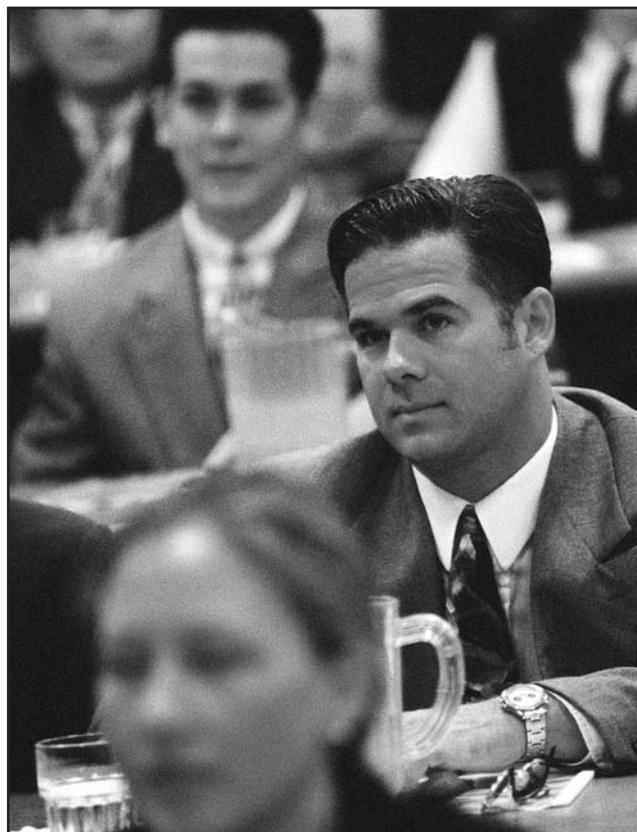
Schedule changes may occur throughout the year as additional workshops are added, and occasionally workshops may be cancelled due to low advanced registrations. Please check the following address throughout the year for the most current workshop information:

http://www.eere.energy.gov/femp/services/training_schedule.cfm

Please see the “Other Technical Resources” section, which directs you to useful Web sites and other sources of energy management assistance.

You'll also find information on FEMP contacts, publications, and services.

Introduction			
Recent Policy and Guidance	2	Laboratories for the 21st Century (Jointly sponsored by DOE and EPA)	30
Summary of Executive Order 13123* – Implementation and Related Training	2	Water Resource Management (Classroom and Telecourse)	31
Users' Guide to the FEMP Training Program	2	Project Software Workshops	
Summary Schedules		Life-Cycle Costing (Telecourse)	32
Multiple Course Sessions	5	Introduction to Facility Energy Decision System (FEDS)	33
Chronology of FEMP FY 2005 Training	6	Advanced Facility Energy Decision System (FEDS)	34
FEMP FY 2005 Distance Learning Training Schedule	7	Other Useful Information	
FEMP FY 2005 Classroom Training Schedule	8	FEMP Locator for Non-FEMP Training Courses	36
FEMP-Sponsored Symposia at National Conferences	9	FEMP FOCUS Newsletter	36
Other Important Conferences	10	FEMP "SAVEnergy Action Plan" Audits	36
FEMP Self-Instruction Resources		Access to Useful Information	36
Self-Instruction – Video and Web Training Resources	11	(FEMP Help Desk; FEMP on the Internet; FEMP by Fax; FEMP Staff Contact List; DOE Regional Office (RO) FEMP Team)	
Other Technical Resources	12	Appendices	
The LEED™ Rating System		What is the Statutory Basis for FEMP Training?	38
Building Commissioning;		Areas of Required Expertise and Recommended FEMP Courses	39
Software Tools Directory;		No-Cost, Low-Cost Conservation Measures	40
ENERGY STAR®			
Distributed Energy Resources;			
Industrial Energy Systems Workshops;			
Buildings Program;			
Alternative Fuel Vehicle Training;			
Cool \$ense Workshop			
Project Financing Workshops			
Super ESPC Delivery Order Workshops	14		
Energy Savings Performance Contracting (<i>Telecourse</i>)	16		
Utility Energy Services Contracting (UESC) Projects (<i>Classroom and Telecourse</i>)	17		
Evolving Energy Markets	18		
Technical Assistance Workshops			
Energy Management Telecourse	19		
Introduction to Distributed Generation and Combined Heat and Power Pre-Workshop Energy 2005 Conference	20		
Introduction to Distributed Energy (Web Cast)	21		
Hands-On Distributed Energy Resources (DER) Training	22		
Buying Energy Efficient Products (Classroom and Telecourse)	23		
FEMP Lights (Web Course)	24		
FEMP Lights (Advanced)	25		
Operations and Maintenance Management (Classroom and Telecourse)	26		
Design Strategies for Low-Energy, Sustainable, Secure Buildings	27		
Implementing Renewable Energy Projects	28		
High Performance, Low Energy Laboratory Design	29		



*Executive Order 13123- "Greening the Government through Efficient Energy Management"

INTRODUCTION

RECENT POLICY AND GUIDANCE

STATUS OF ESPC AUTHORITY

The sunset clause for the federal government's authority to enter into ESPCs became effective October 1, 2003. At press time for this Catalog, FEMP was waiting for ESPC authority to be reinstated in a continuing resolution or other legislation providing temporary or permanent authority. Agencies can continue to work on some ESPCs, and FEMP offers agencies guidance on how to proceed with ESPC activities.

SUMMARY OF EXECUTIVE ORDER 13123 – IMPLEMENTATION AND RELATED TRAINING GUIDELINES

Official guidelines for complying with E.O. 13123 have been developed by the Federal Interagency Task Force administered by FEMP. They are available at: www.eere.energy.gov/femp/about/legislation.cfm

Requirements of E.O. 13123

On June 3, 1999, former President Clinton signed Executive Order 13123, entitled “Greening the Government Through Efficient Energy Management”. The Order states that “agencies shall ensure that all appropriate personnel receive training for implementing E.O. 13123.

(1) DOE, DoD, and GSA shall provide relevant training or training materials for those programs that they make available to all federal agencies relating to the energy management strategies contained in this order” [Sec. 406(d) Training and Education].

The entire text of E.O. 13123 can be found on the FEMP Web site at: www.eere.energy.gov/femp/about/legislation.cfm

Facility management and associated contracting personnel are specifically affected by the following:

The order requires that by 2010, federal agencies achieve:

- 35% greater energy efficiency in buildings relative to 1985 levels; and
- 30% cut in greenhouse gas emissions from building-related energy use relative to 1990.

The order directs agencies to maximize the use of:

- Energy Savings Performance Contracts and Utility Contracts, in which private companies make energy improvements at their own expense on federal facilities and receive a portion of the resulting savings;
- Life-cycle cost analysis in order for agencies to see the long-term savings from energy investments.
- ENERGY STAR® and other energy efficient products, everything from light bulbs to boilers; and
- Renewable energy technologies and sources (solar, wind, geothermal, and biomass).

In pursuit of these goals, consider the following:

- (1) All FEMP courses have been updated to address the requirements of E.O. 13123.
- (2) Each agency has a headquarters representative to the Federal Interagency Energy Task Force who is responsible for providing guidance to agency implementation teams. Be sure your organization has a pipeline to that guidance.

USERS' GUIDE TO THE FEMP TRAINING PROGRAM

What's FEMP Training? Who's it for?

FEMP's training program is divided into three parts:

(1) Training courses teach students how to achieve federal energy-efficiency and water conservation at federal facilities. Most participants are on-site engineers and program managers, but attendance by federal financial and procurement specialists is also important. Most courses allow attendance by representatives from utilities, state and local governments, and private companies. FEMP continuously updates and modifies these courses to improve quality. Currently, Learning Units are available for the “Design Strategies for Low-Energy, Sustainable, Secure Buildings” workshop.

(2) FEMP-Sponsored Symposia at national energy and water management conferences are also available (see page 9).

Is There a Preferred Sequence for Taking FEMP Courses?

Sequencing of FEMP courses depends mostly on whether you are a technical employee or a contracting employee, and of course, your energy or water improvement objectives.

Recommended Steps for Technical Specialists

Step 1: Overview Course FEMP's FY 2005 “Energy Management Telecourse” provides an overview of life-cycle costing, buying energy-efficient products, operations and maintenance, water resource management, Energy Savings Performance Contracting, and Utility Energy Services Contracting. (Prior to the March 2005 broadcast dates, you may order free videotapes of the 2004 sessions.

Please email your order to: deisemann@mcneiltech.com).

Step 2: Energy Efficient Products Information Buying Energy Efficient Products Course: provides guidance for selecting energy efficient products in support of legislation, executive orders, the Federal Acquisition Regulation, and ENERGY STAR®. This course is also available via satellite broadcast and videotape.

Step 3: Updates on Evolving Energy Markets Evolving Energy Markets Course: learn how to choose the best energy service and project assistance options in the evolving retail utility industry, as well as opportunities for better managing energy use, and procuring electric and gas utility services and renewable power.

Step 4: Cost-Savings Optimization Training

Life-Cycle Costing Course: all federal energy and water improvements must be analyzed for life-cycle cost effectiveness. Get the greatest energy and water savings by using the new Windows-based Building Life-Cycle Costing (BLCC 5) software.

Step 5: O&M Opportunities Training

Operations and Maintenance Management Course: find out how to gain better control of your day-to-day facility management and utility costs and implement specific high payback procedures and energy conservation measures. You will need minimal additional resources to reap large near-term savings from this course.

Step 6: Integrated Design Training

Design Strategies for Low-Energy, Sustainable, Secure Buildings Course: up-front planning on how to effectively integrate passive solar design, energy conservation and renewable energy options into building design.

Step 7: Energy Simulation Tool Training

FEDS 5.0 Workshop: incorporates software for analyzing conservation options in individual or multiple buildings at a single site.

Step 8: Specific Technology Training

FEMP Lights Course: targets a major conservation opportunity for federal facility management.

Implementing Renewable Energy Projects Workshop has optional modules for your objectives: passive and active solar; remote power; and backup through photovoltaic and wind systems.

High Performance, Low Energy Laboratory Design and Laboratories for the 21st Century provide a forum for lab building design and operation that incorporates renewable energy technologies and energy efficiency.

Water Resource Management Course: how to measure and manage your sites' water usage to obtain water, energy, cost, and quality-of-life benefits.

Introduction to Distributed Generation and Combined Heat and Power Course: will help you understand distributed energy resources (DER) which involves placing energy generating systems near, or at, the point of use, improving electric reliability and power quality for customer. DER complements the existing transmission and distribution system and enables the use of waste heat for productive purposes in combined heat and power applications.

Step 9: Project Financing/Contracting Training

The Energy Savings Performance Contracting Telecourse and Super ESPC Delivery Order Workshops focus on obtaining private sector funding to accomplish energy improvements. FEMP recommends that procurement and technical specialists attend the Super ESPC Workshop as a project team. Legal, management, and other specialists on your team are also welcome.

The Utility Energy Services Contracting (UESC) Projects Workshop explores all the information you need to know about implementing energy conservation projects with utilities. FEMP recommends that procurement and technical specialists attend the UESC Workshop as a project team. Legal, management, and other specialists on your team are also welcome.

Recommended Steps for Contracting Specialists

Step 1: Energy Efficient Products Information

Buying Energy Efficient Products Course: provides guidance for selecting energy efficient products in support of legislation, executive orders, the Federal Acquisition Regulation, and ENERGY STAR®. This course is also available via satellite broadcast and videotape.

Step 2: Updates on Evolving Energy Markets

Evolving Energy Markets Course: learn how to choose the best energy service and project assistance options in the evolving retail utility industry, as well as opportunities for better managing energy use, and procuring electric and gas utility services and renewable power.

(continued on next page)

INTRODUCTION

Step 3: Project Financing Training

The Energy Savings Performance Contracting telecourse and Super ESPC Delivery Order workshop focus on obtaining private sector funding to accomplish energy improvements. FEMP recommends that procurement and technical specialists attend the Super ESPC Workshop as a project team. Legal, management, and other specialists on your team are also welcome.

The Utility Energy Services Contracting (UESC) Projects Workshop explores all the information you need to know about implementing energy conservation projects with utilities. FEMP recommends that procurement and technical specialists attend the UESC Workshop as a project team. Legal, management and other specialists on your team are also welcome.

What is the Statutory Basis for FEMP Training?

For detailed information on how FEMP training relates to the Executive Order 13123, the Energy Policy Act of 1992 “Trained Energy Manager”, and other requirements for agencies, please refer to the Appendix section of this catalog.

MULTIPLE COURSE SESSIONS

FEMP often holds classroom workshops in conjunction with other workshops or conferences to allow students to stretch their travel dollars. Please refer to the respective course description pages for registration information. (Please see the following pages for a complete listing of all FEMP courses.)

- **October 04-07, 2004 in St Louis, MO**
 - October 4 High Performance, Low Energy Laboratory Design Workshop
 - October 5-7 Laboratories for the 21st Century Conference
- **March 15-17, 2005 in San Diego, CA**
 - March 15 Introduction to Facility Energy Decision System (FEDS)
 - March 16-17 Advanced FEDS
- **August 15-17 2005, Long Beach, CA**
 - Pre Energy 2005 Introduction to Distributed Generation and Combined Heat & Power Workshop



SUMMARY SCHEDULES

CHRONOLOGY OF FEMP FY 2005 TRAINING

Classroom workshops are scheduled upon request for Buying Energy Efficient Products. The following workshops were not yet scheduled at press time: Evolving Energy Markets and Utility Energy Services Contracting. Please check the FEMP Web site for frequent updates: http://www.eere.energy.gov/femp/services/training_schedule.cfm

DATE	EVENT	LOCATION
2004		
Fall 2004	FEMP Lights (Self-paced Web course)	Online
September 22-24	World Energy Engineering Congress (FEMP Symposia)	Austin, TX
October 4	High Performance, Low Energy Laboratory Design Workshop	St. Louis, MO
October 5-7	Laboratories for the 21st Century Annual Conference	St. Louis, MO
October 27	High Performance, Low Energy Laboratory Design Workshop	Seattle, WA
Winter TBD	Design Strategies for Low-Energy, Sustainable, Secure Buildings	TBD
2005		
TBD 2005	Hands-On Distributed Energy Resources	Albuquerque, NM
January 18-19	Advanced ESPC/Financing Workshop	San Antonio, TX
February 8-9	Implementing Renewable Energy Projects	Denver, CO
Spring TBD	Design Strategies for Low-Energy, Sustainable, Secure Buildings	TBD
Spring TBD	FEMP Lights (Self-paced Web Course)	Online
Spring TBD	UESC Projects	TBD
Spring/Summer	Introduction to Distributed Energy	Webcast-Online
March 1-2	Water Resource Management	Las Vegas, NV
March 15	Introduction to Facility Energy Decision System (FEDS)	San Diego, CA
March 15	Energy Management Telecourse: Part 1 (Utility Energy Services Contracting; Energy Savings Performance Contracting)	Satellite & Streaming
March 16-17	Advanced Facility Energy Decision System (FEDS)	San Diego, CA
March 22	Energy Management Telecourse: Part 2 (Buying Energy Efficient Products; Life-Cycle Costing – Basic)	Satellite & Streaming
March 29	Energy Management Telecourse: Part 3 (Water Resource Management; Operations and Maintenance Management)	Satellite & Streaming
March 23-24	GLOBALCON (FEMP Symposia) 2005	Atlantic City, NJ
April 12-13	Introduction to ESPC	Newport, RI
April 12-13	Operations and Maintenance Management	Philadelphia, PA
June 14-15	Introduction to ESPC	Cincinnati, OH
June 28-29	West Coast Energy Managers Conference (FEMP Symposia), 2005	San Diego, CA
August 2-3	Introduction to ESPC	Baltimore, MD
August TBD	Introduction to Distributed Generation & Combined Heat & Power (Pre-Workshop, Energy 2005 Conference)	Long Beach, CA
August 15-17	Energy 2005	Long Beach, CA
September 14-16	World Energy Engineering Congress (FEMP Symposia), 2005	Austin, TX
September TBD	Implementing Renewable Energy Projects	Washington, DC

**FEMP FY 2005 DISTANCE LEARNING
TRAINING SCHEDULE**

(Please refer to next page for classroom workshops.)

Web-Based Courses

- **FEMP Lights**

Fall 2004

Spring 2005

Contact: Cynthia Austin, 916-962-7001;
austin@h-m-g.com

Or register online at:

<http://fempcentral.com/workshops/registration.ws>

Telecourses 2005

- **March 15: Energy Management Telecourse • Part 1**
Utility Energy Services Contracts;
Energy Savings Performance Contracting
- **March 22: Energy Management Telecourse • Part 2**
Buying Energy Efficient Products;
Life-Cycle Costing –Basic
- **March 29: Energy Management Telecourse • Part 3**
Water Resource Management;
Operations and Maintenance Management

Contact: For details on how to participate in the telecourse, visit www.energyworkshops.org/femp, or contact Heather Schoonmaker, via email, trainingsolutions@tds.net or phone at 865-777-9869.

Register for the telecourse online at www.energyworkshops.org/femp which connects to the FEMP Central Registration at <http://fempcentral.com/workshops/registration.ws>



SUMMARY SCHEDULES

FEMP FY 2005 CLASSROOM TRAINING SCHEDULE

(Please see previous page for distance learning training schedule)

Changes occur throughout the year – please check http://www.eere.energy.gov/femp/services/training_schedule.cfm for frequent updates.

WORKSHOP	DATE/LOCATION	INFORMATION
Introduction to Distributed Generation & Combined Heat Power & Workshop	Pre August 15-17	Energy 2005, Long Beach, CA Marion Rawson: 202-479-2748 mrawson@energeticsinc.com
Hands-On Distributed Energy Resources (DER) Training	TBD, 2005 - Albuquerque, NM	Connie Brooks: 505-844-4383 cjbrook@sandia.gov
Buying Energy Efficient Products (Classroom)	Scheduled upon request	Alison Thomas: 202-586-2099
FEMP Lights (Advanced)	Fall 04, Spring 05, Fall 05, dates & places TBD	Heschong Mahone Group: 916-962-7001 teach@h-m-g.com For additional information go to www.femplights.com
Design Strategies for Low-Energy, Sustainable, Secure Buildings	Fall/Winter 2004, Winter/Spring 2005 date and places TBD	Richard Paradis: 202-628-7400, Ext. 201 RParadis@SBICouncil.org
Implementing Renewable Energy Projects	Feb 8-9, 2005 - Denver, CO September 2005 - Washington DC	Robi Robichaud 303-384-7486 robi-robichaud@nrel.gov
High Performance, Low Energy Laboratory Design	Oct. 4, 2004 - St. Louis, MO Oct 27, 2004 - Seattle, WA Oct 17, 2005 - Portland, OR	Labs 21 Conference Registration: 781-674-7374 www.epa.gov/labs21century
Laboratories for the 21st Century Conference	Oct. 5-7, 2004 - St. Louis, MO Oct 18-20 - Portland, OR	Labs 21 Conference Registration: 781-674-7374 www.epa.gov/labs21century
Advanced ESPC/Financing	January 18-19, 2005 - San Antonio, TX	Danette Delmastro: 202-586-7632 danette.delmastro@ee.doe.gov
Water Resource Management	March 1-2, 2005 - Las Vegas, NV	Cecilia Mendoza or Shannan Butler 509-372-4368 femp.train@pnl.gov
Introduction to Facility Energy Decision System (FEDS)	March 15, 2005 - San Diego, CA	Cecilia Mendoza or Shannan Butler 509-372-4368 femp.train@pnl.gov
Advanced Facility Energy Decision System (FEDS)	March 16-17, 2005 - San Diego, CA	Cecilia Mendoza or Shannan Butler 509-372-4368 femp.train@pnl.gov
Operations & Maintenance Management	April 12-13, 2005 - Philadelphia, PA	Cecilia Mendoza or Shannan Butler 509-372-4368 femp.train@pnl.gov
Introduction to ESPC	April 12-13 - Newport, RI June 14-15 - Cincinnati, OH Aug 2-3 - Baltimore, MD	Danette Delmastro: 202-586-7632 danette.delmastro@ee.doe.gov
UESC Projects	Dates and locations TBD	Brad Gustafson@ee.doe.gov
Evolving Energy Markets	Date and Location TBD	david.mcandrew@ee.doe.gov

FEMP-SPONSORED SYMPOSIA AT NATIONAL CONFERENCES

These events offer excellent opportunities for the federal energy and water management community to meet face-to-face and exchange information. The community includes not only representatives of federal agencies, but also energy managers from state and local governments, private-sector suppliers of equipment and services, and representatives from utilities and non-profit institutions. FEMP draws upon this community to organize and conduct seminars on timely energy and water management topics.

CONFERENCES WITH FEMP SYMPOSIA

DATES	CONFERENCE	LOCATION
SEPTEMBER 22-24, 2004	WEEC 2004	Austin TX
OCTOBER 5-7, 2004	Labs 21	St. Louis, MO
MARCH 23-24, 2005	GLOBALCON 2005	Atlantic City, NJ
JUNE 28-29, 2005	West Coast EMC, 2005	San Diego, CA
AUGUST 15-17, 2005	Energy 2005	Long Beach, CA
SEPTEMBER 14-16, 2005	WEEC 2005	Austin TX

Definition of conference acronyms:

Labs 21	Laboratories for the 21st Century Conference, jointly sponsored by DOE and EPA
WEEC	World Energy Engineering Congress (sponsored by the Association of Energy Engineers)
GLOBALCON	Global Conservation (sponsored by the Association of Energy Engineers)
Energy 2005	Sponsored by FEMP; co-sponsored by GSA and US Department of Defense
West Coast EMC	West Coast Energy Management Congress (sponsored by the Association of Energy Engineers)



SUMMARY SCHEDULES

OTHER IMPORTANT CONFERENCES

- **NATIONAL ASSOCIATION OF ENERGY SERVICE COMPANIES 21ST ANNUAL CONFERENCE**
November 17-19, 2004 – Newport Beach, CA
Information: Phone 202-822-0950, or go to www.naesco.org
- **ASHRAE INTERNATIONAL AHR EXPO**
February 7-8, 2005 – Orlando, FL
Information: Phone 301-694-5243 or 800-448-1883, or go to www.ahrexpo.com
- **NATIONAL FACILITIES MANAGEMENT AND TECHNOLOGY CONFERENCE/EXPOSITION**
March 15-17, 2005 – Baltimore, MD
Information: go to www.nfmt.com
- **SOLAR WORLD CONGRESS 2005**
August 8-12, 2005 – Orlando, FL
Information: go to www.ases.org
- **AMERICAN COUNCIL FOR AN ENERGY-EFFICIENT ECONOMY (ACEEE) -
2005 SUMMER STUDY ON ENERGY EFFICIENCY**
TBD
Information: go to www.aceee.org



Without sacrificing occupant comfort, health, or safety, DOE implemented numerous energy conservation projects at its Germantown Facility resulting in an ENERGY STAR® Building Award. All existing windows were replaced with low emissivity (Low E), argon gas-filled, double pane, evergreen-tinted windows with thermal-break frames. All lighting fixtures were replaced with energy efficient fixtures.

SELF-INSTRUCTION – VIDEO AND WEB TRAINING RESOURCES

FEMP Telecourse Online Self Study Tutorial

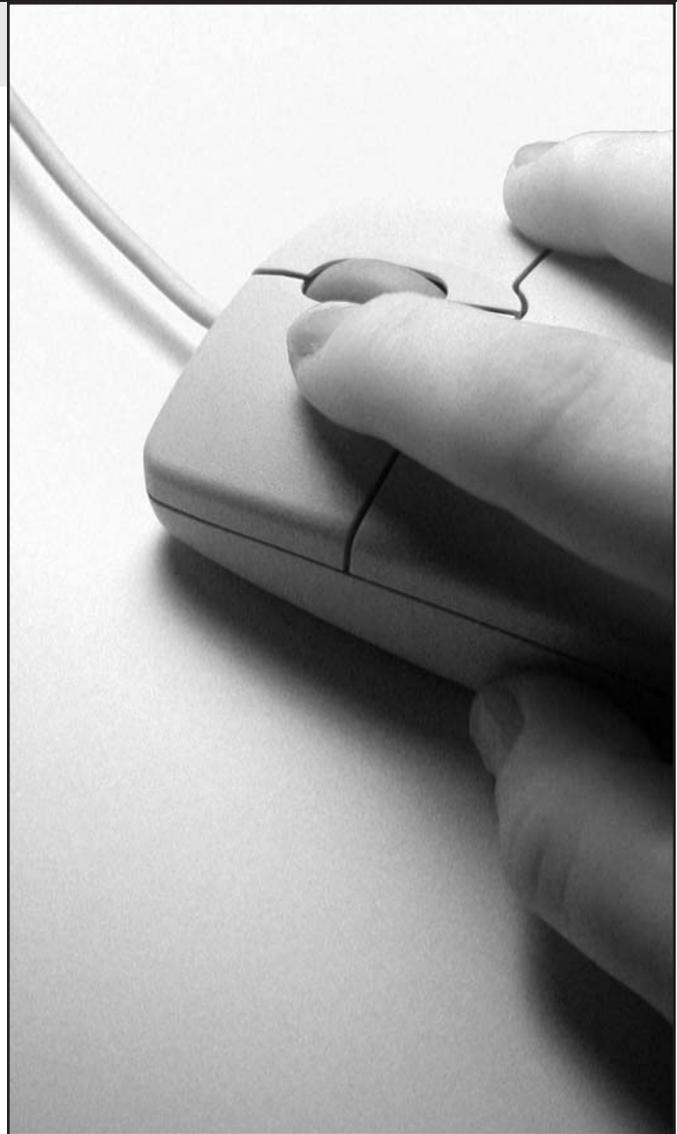
For each of FEMP's March 2005 telecourse modules (listed below), archived streaming videos, course slides and pre- and post-course information, including links to valuable reference materials on FEMP's Web site, can be found at: www.energyworkshops.org/femp

FY 2005 Energy Management Telecourse

- Part 1: Utility Energy Services Contracting
Energy Savings Performance Contracting
- Part 2: Buying Energy Efficient Products
Life-Cycle Costing—Basic
- Part 3: Water Resource Management
Operations and Maintenance Management

FY2005 Web material and VHS tapes will become available during the Spring of FY05.

Please email your order for the VHS tapes to:
deisemann@mcneiltech.com,
including shipping information.



OTHER TECHNICAL RESOURCES

LEED™ Rating System

The LEED (Leadership in Energy and Environmental Design) Green Building Rating System (™) is a voluntary, consensus-based national standard for developing high performance, sustainable buildings. For information, please access http://www.usgbc.org/leed/leed_main.asp

Building Commissioning

Building Commissioning is a systematic process of ensuring that a building performs in accordance with the design intent, contract documents and the owner's operational needs. To learn about the Department of Energy's Building Technologies Program's building commissioning activities, please access www.eere.energy.gov/femp/techass/bldgcomgd.html. For information on related training and conferences sponsored by Portland Energy Conservation, Inc. (PECI), please access <http://peci.org/>

Software Tools Directory

To find information on over 200 energy-related software tools for buildings that emphasize the use of renewable energy and achieving energy efficiency and sustainability in buildings, go to the Tools Directory of DOE's Building Technologies Program at: www.eere.energy.gov/buildings/energy_tools/

ENERGY STAR® Buildings Program

Access www.energystar.gov to learn about the ENERGY STAR® Benchmarking Tool, how to qualify a building for the ENERGY STAR® label, and ENERGY STAR® labeled federal buildings.

Distributed Energy Resources/Combined Heating and Power

The Department of Energy's distributed Energy Program maintains a Web site to provide access to DER-related programs, at <http://www.eere.energy.gov/de/>
For information relevant to FEMP's DER and CHP activities, please access http://www.eere.energy.gov/femp/technologies/der_resources.cfm

Industrial Energy Systems Workshops

DOE's Industrial Technologies Program offers training sessions to help energy managers identify opportunities to reduce energy use and operating costs in industrial applications. Courses are offered throughout the year, are 1/2 to 2 days in length, and cover the following subject areas:

- Fan System Performance Assessment
- Motor Systems Management
- Optimization of Process Heating
- Fundamentals of Compressed Air
- Advanced Management of Compressed Air
- Adjustable Speed Drive Application
- Pump System Assessment
- Steam System Assessment

The courses are intended for private sector participants, but are often open for limited numbers of federal participants. Additional information on these courses may be found at: www.oit.doe.gov/bestpractices/training

Group training on industrial applications for federal industrial customers may be available through FEMP's Industrial Facilities Program. For more information on course offerings through FEMP, contact Michaela Martin at martinma@ornl.gov or 865-574-8688.



A heat exchange recovery system at the Kansas City Science and Technology Center Kansas City, KS, provides maximum energy conservation and good indoor air quality.

Alternative Fuel Vehicle Training

The National Alternative Fuels Training Consortium strives to improve air quality and decrease the dependence on foreign oil by promoting, supporting, and expanding the use of alternative fuel vehicles. They develop and deliver standard, competency-based training for automotive trainers, technicians, and others in the alternative fuel vehicle field, and educate the consumer about alternative fuel vehicles.

This consortium currently operates a network of National Training Centers (NTCs) in 14 states. More than 2,000 technicians have been trained from over 50 industry, academic, and governmental organizations. The US Postal Service, the US Air Force, Clean Cities Programs, and private fleets are users of training materials from the consortium. National Training Centers' contact information and curricula are available at:

<http://naftp.nrcce.wvu.edu/ntc/ntcintro.html>

Cool \$ense Workshop

Agencies with an interest in building energy efficiency should consider organizing a workshop to promote integrated chiller retrofits. These retrofits can save money and energy and increase the asset value of your area's buildings. A workshop planning guide has been put together to help you with logistics, programming and marketing strategies. Find this guide along with other information at the Cool \$ense Web site: <http://ateam.lbl.gov/coolense/>



A sunny view of the atrium lobby area of the Seattle Terminal Radar Approach Control Facility, Burien, WA, that features skylights, vision glass and translucent structural glazing for the walkways and stairs.

PROJECT FINANCING WORKSHOPS

SUPER ESPC DELIVERY ORDER WORKSHOPS

OPEN ONLY TO GOVERNMENT PERSONNEL

Capsule Description Learn how to implement your energy conservation projects through the streamlined Super Energy Savings Performance Contracting (Super ESPC) process. This procurement process allows energy service companies to assume the capital costs of installing energy and water conservation equipment and renewable energy systems at federal sites. Agencies are shown how to issue delivery orders against regional or technology-specific indefinite delivery/indefinite quantity (IDIQ) contracts.

Course Length Each course - 2 days

Fees None

Course Contents **Two different versions of the Super ESPC course will be offered in FY 2005:**

Introduction to ESPC - Intended for an audience who have little or no knowledge of Super ESPCs and may be considering doing a delivery order.

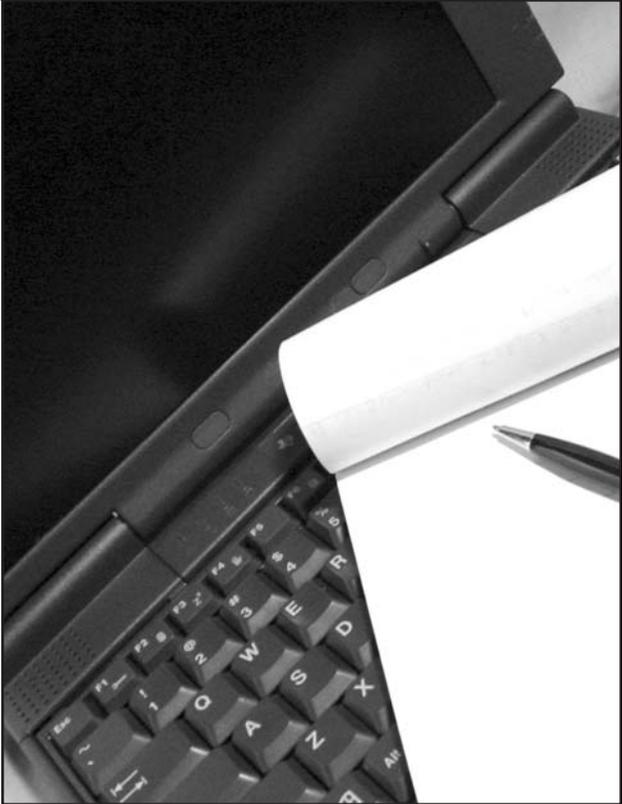
Advanced ESPC/Financing - Intended for a specific audience who want to gain an in-depth understanding of the Super ESPC process, with a special emphasis on financing and measurement and verification, and are currently developing a Super ESPC delivery order.

Who Should Attend Energy managers and facility, technical, and procurement personnel. Due to discussion of procurement-sensitive information, **this workshop is open only to government personnel.**

Benefits to You Allows agencies to partner with private-sector energy service companies in order to take advantage of a solution for saving thousands of dollars in capital costs while reducing long-term energy and water bills. Take advantage of the lessons learned by other federal agencies in implementing and financing energy and water efficiency projects.

Instructors Regional experts from the U.S. Department of Energy, Golden Field Office, and DOE National Laboratories.

Contact For more information about the workshop, contact Danette Delmastro at danette.delmastro@ee.doe.gov or 202-586-7632. You can also register online at <http://fempcentral.com/workshops/registration.ws>. For agency-customized workshops, contact your DOE Regional Office (see listing on page 37).



FY 2005 SCHEDULE

January 18-19, 2005	Advanced ESPC/Financing	San Antonio, TX
April 12-13, 2005	Introduction to ESPC	Newport, RI
June 14-15, 2005	Introduction to ESPC	Cincinnati, OH
August 2-3, 2005	Introduction to ESPC	Baltimore, MD

Leadership



The Band Building at Travis Air Force Base, CA was designed with a dual purpose – to achieve great acoustics and energy efficiency. The windows, walls, and ceilings are well insulated to reduce heat transfer and lower the amount of energy required for heating and cooling. The HVAC systems are controlled by an energy monitoring and control system that optimizes room temperature. These measures, along with variable frequency drives, state of the art lighting with occupancy sensors, LED exit signs, water-saving equipment, and low-maintenance landscaping, reduce energy use by almost 200,000 kWh and save 33,800 gallons of water each year.

Decorative wall and insulation were installed and sealed, the walls are well insulated and protected. A new LED lighting control system was installed in the building's lighting systems to save energy. The controls shut off lights when not in use.

Digital controls increase the HVAC system's treatment options, lower temperature, while occupancy sensors are lighting energy when there is no one in the room.

Band Building
Travis Air Force Base, CA

YOU HAVE the POWER™

United States Department of the Air Force
Federal Energy Management Program

For more information on how you can get involved in the You Have the Power campaign, visit the FEEM Web site at www.atoenergy.gov.



Leadership



Environmentally benign construction practices make the Parker River Visitor Center and Administrative Headquarters an exemplary model of sustainable design. Special care is being taken at the site to restore disturbed land to natural habitats of wetland, field, woods, and coastal areas. Recycled and low-VOC building materials were used throughout, and non-hazardous preservative was applied to exterior wood surfaces. Water conservation technologies include low-flow fixtures and directing roof runoff to groundwater recharge. Passive solar techniques such as southeastern building orientation and daylighting, along with super insulation of the building envelope, high-efficiency lighting, and a geothermal heat exchange system, reduce energy use by 41 percent over a traditional office building.

The design, building orientation, air sealing, the height, ventilation, and geometry of the roof and windows, provide an excellent model of energy efficiency and high building performance.

The building provides systems such as insulation to energy and water conservation, conservation of air and water, and good acoustics to support wildlife in natural habitat settings.

Parker River National Wildlife Refuge
Plum Island, Newburyport, MA

YOU HAVE the POWER™

United States Department of the Interior
Federal Energy Management Program

For more information on how you can get involved in the You Have the Power campaign, visit the FEEM Web site at www.atoenergy.gov.



Leadership



The Mid-Atlantic Social Security Center in Philadelphia recently installed a solar hot water heating system that pre-heats domestic hot water before it reaches the boiler. The 576 square-foot system includes insulated, evacuated tube collectors arrayed into two roof panels that provide 124,000 Btu of heating for 1,100 gallons of water per day. The system will save \$5,000 per year, for a 15-year payback, and a reduction equivalent to 42,000 barrels of oil and 37,000 cubic feet of natural gas. The Center is the first federal building in the Philadelphia region to use solar energy for heating.

Rob Steiner (right) was instrumental in incorporating solar hot water heating systems to reduce pollution emissions and fossil fuel consumption.

The evaporative cooler is part of the thermal air storage system, another of many innovative technologies that have been implemented by Rob Steiner.

Mid-Atlantic Social Security Center
Philadelphia, PA

YOU HAVE the POWER™

United States Social Security Administration
Federal Energy Management Program

For more information on how you can get involved in the You Have the Power campaign, visit the FEEM Web site at www.atoenergy.gov.



Leadership



At Naval Base San Diego, the Admiral Prout Field House and Pool showcase solar technologies to 200,000 personnel who use the facility each year. 200 roof-top thermal solar collectors provide more than 60 percent of the energy needed to heat the facility's swimming pool. Controls collect data on the solar water temperature and ambient sunlight, allowing the system to use either the solar panels or boiler to adjust the pool's water temperature. High-efficiency lighting fixtures are controlled by photocells, which turn on and off depending on the amount of daylight entering through energy-saving skylights. These measures reduced energy consumption by 48 percent in FY 2003.

200 roof-top thermal solar collectors on the gymnasium rooftop provide over 60 percent of the annual heating required by the pool facility's water heaters.

Neutral skylight and skylight covers provide most of the light needed for the entire gymnasium.

Admiral Prout Field House and Pool
San Diego, CA

YOU HAVE the POWER™

United States Department of the Navy
Federal Energy Management Program

For more information on how you can get involved in the You Have the Power campaign, visit the FEEM Web site at www.atoenergy.gov.



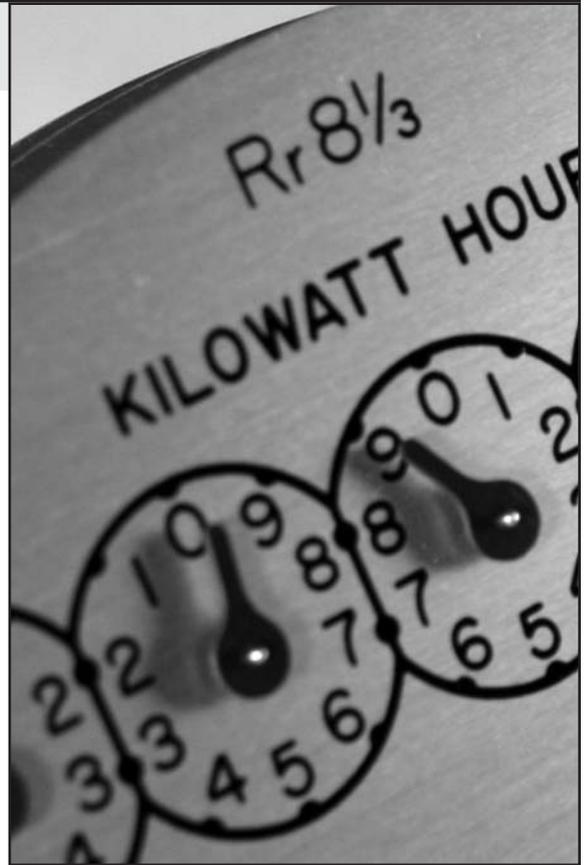
The Federal Energy Management Program's You HAVE THE POWER campaign for 2004 has recognized these buildings and facilities for excellence in energy efficiency: (clockwise, top left) The Band Building, Travis Air Force Base, CA; Parker River National Wildlife Refuge, Plum Island, Newburyport, MA; Admiral Prout Field House and Pool, San Diego, CA; Mid-Atlantic Social Security Center, Philadelphia, PA.

PROJECT FINANCING WORKSHOPS

ENERGY SAVINGS PERFORMANCE CONTRACTING (ESPC)

(TELECOURSE)

Capsule Description	This telecourse provides you with basic information on Energy Savings Performance Contracting (ESPC), a process that allows private-sector energy service companies to assume the capital costs of installing energy and water conservation equipment and renewable energy systems at federal sites.
Course Length	2 hours at your satellite downlink site or via online streaming video.
Fee	Free; however, participants must have on site downlink satellite access available or Internet access for online streaming video.
Prerequisites	Self Study Tutorial, available via the dedicated Web site, www.energyworkshops.org/femp , is completed weekly prior to the live satellite broadcast. Participants print their own note-taking versions of the instructors' slides to follow along during the live broadcast presentation.
Course Contents	Overview of the process, design and preparation of ESPC solicitations (for agency single-site contracts or agency regional indefinite delivery/indefinite quantity ESPCs); evaluation of proposals; implementation of contracts; case studies; and specific project assistance. As applicable, the workshop is customized to meet the agency's needs in reviewing and examining other alternative financing options such as utility incentive programs and opportunities, and partnerships with local utilities.
Who Should Attend	Headquarters, legal, contracting and technical personnel, and program managers.
Benefits to You	The telecourse helps enable you to meet Energy Policy Act of 1992 (EPACT) goals and provides tools to help you obtain private sector financing for energy, water and renewable energy projects when agency funds are limited.
Instructors	Experts from Oak Ridge National Laboratory
Contact	For more information about the telecourse and details on how to participate, visit www.energyworkshops.org/femp or contact Heather Schoonmaker, via email, trainingsolutions@tds.net or phone at 865-777-9869. Register online for the telecourse at www.energyworkshops.org/femp which automatically connects to FEMP Central at http://fempcentral.com/workshops/registration.ws To inquire about a customized workshop for your agency or to attend one, contact your DOE Regional Office (see listing on page 37).



FY 2005 SCHEDULE

March 15

Telecourse

**UTILITY ENERGY SERVICES CONTRACTING (UESC)
PROJECTS WORKSHOP**

(CLASSROOM AND TELECOURSE)

Capsule Description	This workshop provides attendees with an overview of the contracting options and services available from their local utility companies to engineer, finance, and install cost-effective energy and water savings projects. Upon completing the workshop, participants have the contracting and technical knowledge to begin a project at their facility.
Course Length	1-1/2 days (Telecourse: 2 hours at your satellite downlink site or via online streaming video.)
Fee	None. Sponsored by a local utility or agency. (Telecourse participants must have on site downlink satellite access available or Internet access for online streaming video.)
Prerequisites	None. Attendees are strongly encouraged to bring questions about their projects for discussion. (Telecourse: Pre-class study material is made available via Web site.)
Course Contents	Participants learn the typical UESC project process, from the audit phase to commissioning the equipment. Sample documents and a step-by-step guide to completing utility contracts for energy conservation projects are provided. As applicable, specific utility programs and services may be discussed, and working sessions with utility representatives may be included.
Who Should Attend	Project implementation teams including facility/energy managers, engineering staff, legal staff, and procurement and contracting officials. Priority is given to federal personnel; however, state and local government customers are welcomed on a space-available basis.
Benefits to You	Helps your agency meet EPACT goals, conserve energy and get energy conservation projects implemented when agency funds are limited.
Instructors	Karen Thomas & Deb Beattie, National Renewable Energy Laboratory Julia Kelley, Oak Ridge National Laboratory
Contact	Register online at: http://fempcentral.com/workshops/registration.ws Telecourse registration: for details on how to participate or to register, visit www.energyworkshops.org which automatically connects to FEMP Central registration.

FY 2005 Schedule

March 15, 2005	Telecourse	
Spring 2005	UESC Projects	TBD

For an updated schedule on classroom courses, please refer to the FEMP Web site:
http://www.eere.energy.gov/femp/services/training_schedule.cfm

PROJECT FINANCING WORKSHOPS

EVOLVING ENERGY MARKETS

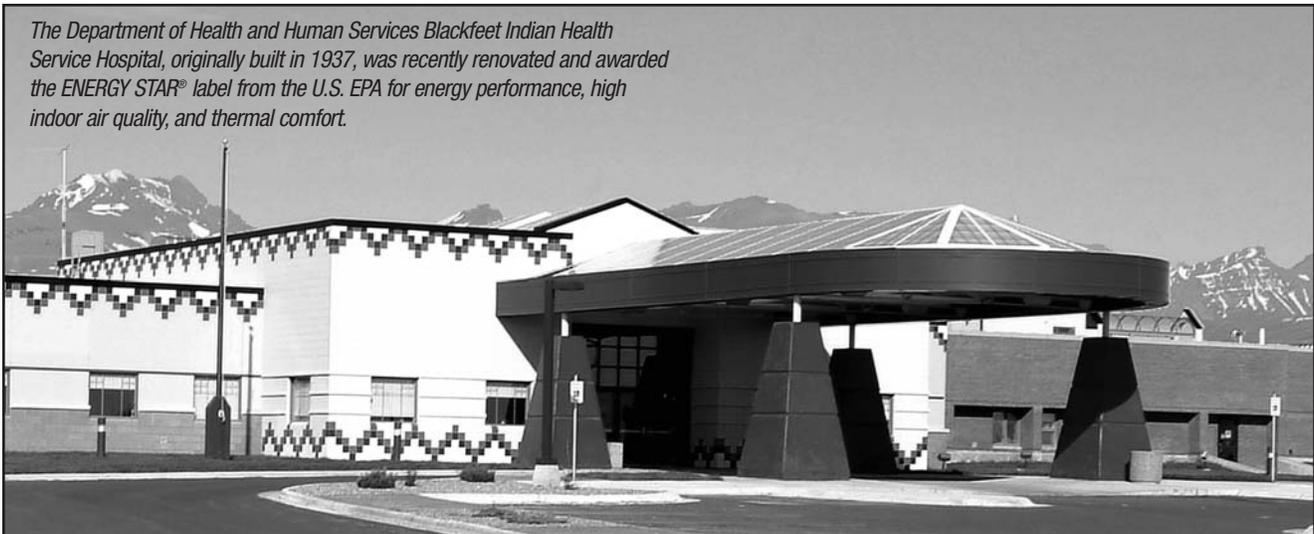
Capsule Description	This workshop brings together energy experts who explain the fundamentals of how today's utilities operate, and present opportunities for better managing energy use, and procuring electric and gas utility services and renewable power.
Course Length	1 day
Fees	None
Prerequisites	None
Course Contents	Attendees will learn why the utility industry is changing, how utility restructuring is proceeding, and what opportunities this evolving energy market might provide for better energy management practices. Attendees will also hear about GSA's role in energy procurement as well as options for purchasing renewable power.
Who Should Attend	Federal facility and energy managers, federal procurement and contract staff, and state/local government energy managers. Priority will be given to federal personnel.
Benefits to You	Gain a better understanding of how energy markets are evolving. Ask the experts and take advantage of our instructors' experience in evolving energy markets.
Instructors	Mike Warwick, Pacific Northwest National Laboratory; Ken Shutika, General Services Administration; Chandra Shah, National Renewable Energy Laboratory
Contact	David McAndrew, (202) 586-7722. Register online at: http://fempcentral.com/workshops/registration.ws

FY 2005 SCHEDULE

ONE CLASSROOM COURSE IS BEING SCHEDULED

Please refer to the FEMP Web site for schedule updates: http://www.eere.energy.gov/femp/services/training_schedule.cfm

The Department of Health and Human Services Blackfeet Indian Health Service Hospital, originally built in 1937, was recently renovated and awarded the ENERGY STAR® label from the U.S. EPA for energy performance, high indoor air quality, and thermal comfort.



ENERGY MANAGEMENT TELECOURSE

Capsule Description	Live streaming video and satellite technology deliver instructors' lectures followed by live question-and-answer sessions. Problem solving, Web references, quizzes, course evaluations, and certificates of completion are available via the dedicated Web site. Information is updated annually and is designed to assist facility management personnel in achieving Energy Policy Act of 1992 (EPACT) and E.O. 13123 objectives for energy and water savings and alternative financing.
Course Length	Instructor presentations are 4 hours per day on 3 dates at your downlink site. The online Self Study Tutorial is available via the Internet 24/7 and requires approximately 20 – 28 hours to complete.
Fee	Free; however, participants must have on site downlink satellite access available or Internet access for online streaming video.
Prerequisites	Self Study Tutorial, available via the dedicated Web site, www.energyworkshops.org/femp , is completed weekly prior to the live satellite broadcast. Participants print their own note-taking versions of the instructors' slides to follow along during the live broadcast presentation.
Course Contents	Modules include life-cycle costing, energy savings performance contracting, utility energy services contracting, water resource management, and energy conservation opportunities in purchasing, maintenance and design areas.
Who Should Attend	Energy managers responsible for daily operation of facilities (including building managers, demand-side utility managers, government planners, and others) and related contracting and management personnel.
Benefits to You	Completion of these workshops helps agency personnel achieve and maintain energy and cost savings from practical, technologically feasible, and economically sound energy conservation measures.
Instructors	Karen Thomas, Deborah Beattie, National Renewable Energy Laboratory; Linde Fuller, National Institute of Standards and Technology; Donald Mauritz, Lawrence Berkeley National Laboratory; Robert Baugh, Oak Ridge National Laboratory; Kate McMordie-Stoughton and Ray Pugh, Pacific Northwest National Laboratory.
Contact	For details on how to participate in the telecourse, visit www.energyworkshops.org/femp , or contact Heather Schoonmaker, via email, trainingsolutions@tds.net or phone at 865-777-9869. Register online for the telecourse at www.energyworkshops.org/femp which connects to the FEMP Central Registration at http://fempcentral.com/workshops/registration.ws

FY 2005 SCHEDULE

DATE	MODULE
March 15	Part 1: Utility Energy Services Contracting; Energy Savings Performance Contracting
March 22	Part 2: Buying Energy Efficient Products; Life-Cycle Costing – Basic
March 29	Part 3: Water Resource Management; Operations and Maintenance Management

TECHNICAL ASSISTANCE WORKSHOPS

INTRODUCTION TO DISTRIBUTED GENERATION AND COMBINED HEAT AND POWER PRE- WORKSHOP ENERGY 2005 CONFERENCE

Capsule Description	This workshop provides an introduction to how distributed generation and combined heat and power projects are designed and implemented, with a focus on how to identify good project opportunities and get started. Participants will learn how to address issues related to sizing, configurations, financing, interconnection and permitting. Come learn about the hardware options, including prime movers to generate power, and thermally activated technologies to use waste heat and how they can be applied to meet your needs. Key concepts will be illustrated with case studies. Get an opportunity to meet private industry representatives who have extensive experience with successful projects. Attendees will learn what the key questions are when considering a project and where to get answers.
Course Length	This is a 1/2 day workshop to be held in conjunction with Energy 2005
Fee	There is no cost for this workshop
Prerequisites	Read the "DER How to Guide".
Course Contents	Overview of DG/CHP, DG/CHP technologies and their application, and case studies.
Who Should Attend	Federal facility managers; federal, regional, and state energy management officials; and others interested in DG/CHP project development and implementation.
Benefits to You	Learn DG/CHP technology, how to implement a DG/CHP project, and how to address regulatory barriers.
Presenters	Individuals from private industry, DOE Regional experts, and Oak Ridge National Laboratory.
Contact	Send your name, affiliation, email and phone contact information to stansberrvl@ornl.gov or call Linda Stansberry at 865-574-0266. You can also register online at FEMP: http://fempcentral.com/workshops/registration.ws .

FY 2005 SCHEDULE

August, TBD, Pre-Energy 2005

Long Beach, CA

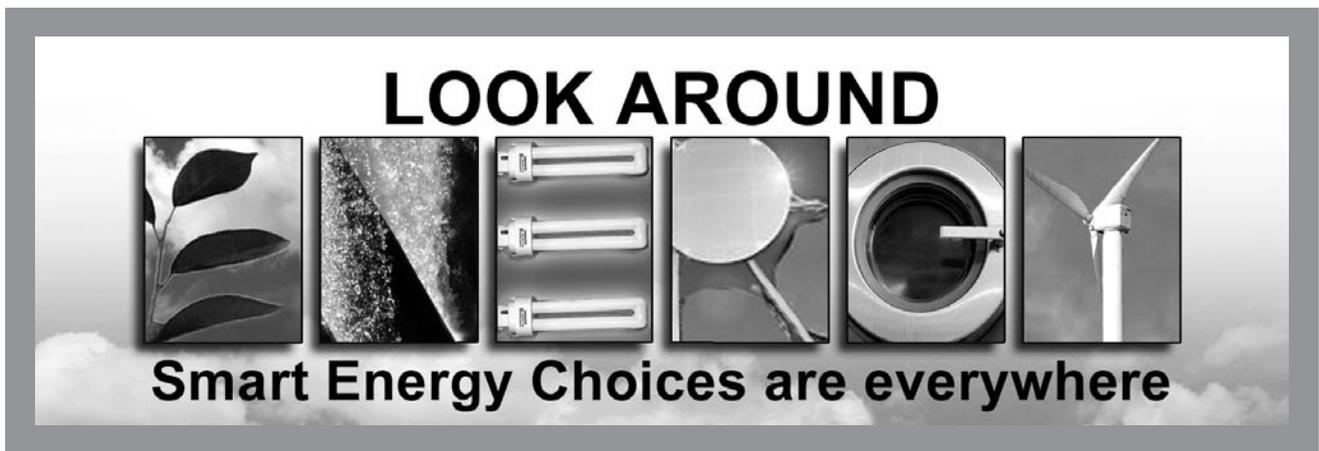


Solar street lights, warning signs, and anti-terrorism lighting enhance driver safety, reduce grid-connected energy costs, and improve base energy security at Marine Corps Base Camp Pendleton, CA .

**INTRODUCTION TO DISTRIBUTED ENERGY—
WEB CAST**

Capsule Description	"Distributed Generation and Combined Heat and Power Workshop" is designed to provide participants from the federal government with an introduction to Distributed Energy (DE). This Federal Energy Management Program training is offered through a Web cast in one afternoon.
Course Length	1/2 day course
Fee	No fee.
Prerequisites	Read the "DER How to Guide"
Course Contents	Overview of Distributed Generation and Combined Heat and Power (DG/CHP) technologies and their application, and case studies.
Who Should Attend	Federal facility managers; federal, regional, and state energy management officials; and others interested in DG/CHP project development and implementation.
Benefits to You	Learn about DG/CHP technologies, how to implement a DG/CHP project, and how to address regulatory barriers.
Presenters	Individuals from private industry, DOE regional experts, National Renewable Laboratory, and Sandia National Laboratory.
Contact	For information contact Marion Rawson, Energetics, 202-479-2748 or email mrawson@energeticsinc.com . Register on-line at http://fempcentral.com/workshops/registration.ws

FY 2005 SCHEDULE Spring/Summer 2005 TBD



TECHNICAL ASSISTANCE WORKSHOPS

HANDS-ON DISTRIBUTED ENERGY RESOURCES (DER) TRAINING

Capsule Description	The intent of this course is to familiarize energy managers, decision-makers and technicians with the technologies of distributed energy resources (DER) technologies from cradle to grave. This will be an onsite, hands-on course at Sandia's Distributed Energy Technologies Laboratory (DETL).
Course Length	2 days
Fee	None
Prerequisites	None
Course Contents	Overview of DER, DER technologies and their application, case studies, and hands-on training.
Who Should Attend	Federal Energy Managers and non-federal Facility Managers
Benefits To You	When trainees successfully complete the course, they are able to identify appropriate sites, perform economic analyses, prepare appropriate funding and procurement requests, evaluate competitive bids, manage installations (including site preparation), understand key operational and maintenance issues, and identify end of life and disposal options. Trainees have the opportunity to operate various distributed resources at DETL.
Instructors	Sandia National Laboratory and National Renewable Energy Laboratory.
Contact	For information, contact Connie Brooks, Sandia National Laboratory, 505-844-4383, or email cjbrook@sandia.gov . Register online at: http://fempcentral.com/workshops/registration.ws .

FY 2005 SCHEDULE	TBD, 2005	Albuquerque, NM
-------------------------	------------------	------------------------

Please refer to the FEMP Web site for schedule updates:
http://www.eere.energy.gov/femp/services/training_schedule.cfm

BUYING ENERGY EFFICIENT PRODUCTS

(CLASSROOM AND TELECOURSE)

Capsule Description	Specifics are presented on how to meet the Federal Acquisition Requirement (CFR 48, Part 23) and the Executive Order 13123 directive to purchase ENERGY STAR® products, and products in the top 25th percentile of energy efficiency (for products not covered by ENERGY STAR®). Information is also presented on how to meet Executive Order 13221's directives on purchasing low power standby devices.
Course Length	Telecourse: 2 hours (1/2 day classroom course may be arranged upon request.)
Fee	There is no cost for the telecourse, however, participants must have on site downlink satellite access available or Internet access for online streaming video.
Prerequisites	Pre-class study materials are available via the Internet 24/7.
Course Contents	Federal Acquisition Requirement (CFR 48 Part 23) and Executive Order 13123 directs federal agencies to purchase ENERGY STAR®-labeled products, or products in the top 25th percentile of energy-efficiency as designated by FEMP (for those products not covered by ENERGY STAR®). Learn about FEMP's Product Energy Efficiency Recommendations, easy-to-use one-sheet summaries that identify the complying efficiency levels for each product type. The Recommendations also provide cost-effectiveness guidance, buyer tips for proper selection and design, and information on how to acquire efficient models through federal supply agencies (GSA and DLA) and other supply sources. FEMP's initiatives and activities on low power standby devices will also be presented.
Who Should Attend	Energy/facility managers and procurement/contract specialists responsible for making purchase decisions for energy- and water-consuming products.
Benefits to You	Provides guidelines on complying with the Federal Acquisition Requirement and the Executive Orders, along with providing additional resources to assist federal buyers. Helps with selection and procurement of energy efficient products that save energy and money for your facility. Participants receive a copy of the Product Energy Efficiency Recommendations, as well as all future updates.
Instructor	Donald Mauritz, Lawrence Berkeley National Laboratory
Contact	For details on how to participate in the telecourse, visit www.energyworkshops.org/femp , or contact Heather Schoonmaker, via email, trainingsolutions@tds.net or phone at 865-777-9869. Register online for the telecourse at www.energyworkshops.org/femp which connects to the FEMP Central Registration at http://fempcentral.com/workshops/registration.ws Please call Alison Thomas, 202-586-2099 to arrange for a classroom course.

FY 2005 SCHEDULE

March 22, 2005

Telecourse

TECHNICAL ASSISTANCE WORKSHOPS

FEMP LIGHTS

(WEB COURSE)

Capsule Description	This comprehensive lighting class is offered over the Internet as a self-paced course. A special Web site provides the class forum, delivering course materials and assignments to the desktop of the student. Photographs, diagrams and animated text provide a lively and highly visual medium to learn about all aspects of energy-effective lighting. The course has been updated to a self-paced format, allowing students to complete materials according to their own schedule.	
Course Length	Students are given 15 weeks to finish course materials, which consist of 36 lessons and nine quizzes. Approximately 3-4 hours per week.	
Fee	Free, however, the Web-based text, the Advanced Lighting Guidelines, must be downloaded by the student from the New Buildings Institute Web site: www.newbuildings.org or purchased for \$25 from www.iesna.org .	
Prerequisites	No course prerequisites, but access to the Internet and email is necessary. Confidence with computer technology is advised. Completion of this course is a prerequisite for attendance of the face-to-face Advanced Lighting Workshop, which deals with specific design and implementation challenges.	
Certification	The National Council on Qualifications for the Lighting Professions (NCQLP) certifies the FEMP Lights Web Course for 18 Lighting Education Units (LEUs). Students are also encouraged to use this course as a first step towards pursuing Lighting Certification (LC) with NCQLP. See www.ncqlp.org for more information.	
Course Contents	The course focuses on energy effective lighting for federal buildings. It covers principles of good lighting; new lamps and ballasts; fixtures and controls technologies; energy and life-cycle analysis of lighting projects; selecting contractors; managing a lighting retrofit installation; using the FEMP Master Specification and other resources. The newly updated Advanced Lighting Guidelines is used as the primary text. Students are shown how to use the lighting Web sites, other freely available resources, and exercises based on the students' own lighting experience to deepen their understanding of energy effective lighting.	
Who Should Attend	The course is tailored to the needs of federal personnel who are tasked with managing buildings, or lighting retrofit projects, or who want to learn more about the basics of lighting efficiency. Recent students include engineers, architects, project managers, and program managers. Non-federal personnel can take the course on a space-available basis.	
Instructors	Lisa Heschong, architect; Jim Benya PE, FIES	
Contact	Register online at http://fempcentral.com/workshops/registration.ws . For more information about the course go to www.femplights.com or call 916-962-7001. The lead instructor, Lisa Heschong, can be reached at teach@h-m-g.com .	

FY 2005 SCHEDULE

Registration period: Fall 2004, Spring 2005, Fall 2005

FEMP LIGHTS

(ADVANCED) (CLASSROOM COURSE)

Capsule Description	The Advanced Lighting Workshop is designed for students who have mastered the basics of energy effective lighting, and are engaged in application specific challenges. The workshop offers the opportunity to work with an expert illumination engineer on real world lighting problems. Students have the opportunity to try out various analysis tools and techniques. The workshop can be tailored to specific needs.
Course Length	2-1/2 days
Fee	\$195, includes course registration. Scholarships are available for government employees.
Prerequisites	FEMP Lights Web Course, or permission of the instructors.
Course Contents	The instructor presents a variety of lighting case studies and the decision process necessary to achieve a successful project, including lighting, energy and economic analysis. Applications that combine high light quality and energy efficiency are stressed. Students are welcome to bring in challenges from their own experience for analysis.
Who Should Attend	The Advanced Lighting Workshop is designed for students who have completed the FEMP Lights Web Course, and are engaged in lighting projects.
Instructors	Lisa Heschong, architect; Nancy Clanton, PE
Contact	Register online at http://fempcentral.com/workshops/registration.ws . For more information about the course go to www.femplights.com or call 916-962-7001. The lead instructor, Lisa Heschong, can be reached at teach@h-m-g.com .

FY 2005 SCHEDULE	Spring/Fall 2005	TBD
-------------------------	------------------	-----



The Band Building at Travis Air Force Base, CA was designed with a dual purpose – to achieve great acoustics and energy efficiency. The windows, walls, and ceilings are well insulated to reduce heat transfer and lower the amount of energy required for heating and cooling.

TECHNICAL ASSISTANCE WORKSHOPS

OPERATIONS AND MAINTENANCE MANAGEMENT

(CLASSROOM AND TELECOURSE)

Capsule Description	This course provides an overview of Operations and Maintenance (O&M) practices and management programs. The workshop is designed to provide guidance on developing the roles, responsibilities, and functions of key personnel within an O&M organization. Additionally, the workshop focuses on four major O&M practices (Reactive, Preventive, Predictive, and Reliability Centered) and presents information on O&M technologies and savings ideas. Additionally, the workshop has a hands-on metering module targeting readily available and easy-to-use metering technologies for O&M and general energy efficiency.
Course Length	2 days; (Telecourse: 2 hours)
Fee	None; (There is no cost for the telecourse, however, participants must have on site downlink satellite access available or Internet access for online streaming video.)
Prerequisites	None (Telecourse: Pre-class study materials are made available via the Internet.)
Course Contents	Definition of O&M; benefits of a strong O&M program; costs, risks and liability issues; types of maintenance programs (corrective, preventive, predictive); O&M infrastructure requirements; O&M organization integration; ideas for implementation of O&M; discussion of O&M tools; and a hands-on metering segment.
Who Should Attend	Facility management staff; maintenance, engineering operations, training, and administration staff providing O&M services.
Benefits to You	Facility and O&M managers learn about proven O&M organizational structures, and are introduced to technologies and tools to optimize energy and dollar savings, reduce operations and fuel costs, lower maintenance and “downtime,” and increase safety and reliability.
Instructors	Greg Sullivan and Ray Pugh, Pacific Northwest National Laboratory
Contact	For more information about the classroom course contact Cecilia Mendoza at 509-372-4368, or her email address at femp.train@pnl.gov . Register online at http://fempcentral.com/workshops/registration.ws (For details on how to participate in the telecourse, visit www.energyworkshops.org/femp , or contact Heather Schoonmaker, via email, trainingsolutions@tds.net or phone at 865-777-9869. Register online for the telecourse at www.energyworkshops.org/femp which connects to the FEMP Central Registration at http://fempcentral.com/workshops/registration.ws)

FY 2005 SCHEDULE

March 29, 2005	Telecourse
April 12-13	Philadelphia, PA

DESIGN STRATEGIES FOR LOW-ENERGY, SUSTAINABLE, SECURE BUILDINGS

Capsule Description	Federal buildings provide a unique design challenge with the need of incorporating security, sustainability, and safety requirements. How buildings use energy plays a critical role in integrating these three complex needs. The course teaches the fundamentals of an integrated "whole building" approach to design that considers the structure and systems as a whole and examines how they work best together to save energy and reduce environmental impact. Participants learn about building durability and security in concert with sustainability, "zero-energy" buildings, green power, renewable energy technologies and distributed generation. The topics apply to new building and retrofits for all federal building types: office buildings, border stations, residences/barracks, visitor centers, courthouses, warehouses, prisons, etc.
Course Length	Traditional format is 2 days of lecture/discussion with a local site visit. Course can be customized to meet agency needs.
Fee	Free to federal government employees; \$175 for contract architects and engineers. Customized workshops are negotiable.
Prerequisites	None
Course Contents	Topics include daylighting, natural ventilation, passive solar heating, energy-efficient lighting/systems/materials, building integrated photovoltaics, HVAC control strategies, procurement of cost-effective design and consulting services, and project financing options. The curriculum is designed to help participants gain a more thorough understanding of water conservation, low-VOC building materials, indoor environmental quality, and site planning and design issues. Instructors demonstrate some of the latest energy-efficient design software - ENERGY-10 (Version 2.0), review the Internet-based Whole Building Design Guide, and discuss the U.S. Green Building Council's LEED Rating System™, as well as the ENERGY STAR® label for buildings.
Who Should Attend	Federal project managers, facility managers, and architects and engineers that work with federal agencies.
Benefits to You	Learn the latest thinking on these topics and how to design your buildings to comply with Executive Orders 13123 and 13101. Buildings designed with an integrated approach use significantly less conventional energy, make more effective use of renewable energy (such as PV and solar hot water), incorporate recycled and recyclable building materials, and minimize construction waste. Attendees are eligible for 13 AIA CES Learning Units and AEE Certified Energy Manager CEUs.
Instructors	Joe Bourg, Millennium Energy; Robert Koester, Ball State University; Malcolm Lewis, CTG Energetics; and Richard Paradis, SBIC
Contact	Register online at: http://fempcentral.com/workshops/registration.ws . For more information, contact Richard Paradis at SBIC, (202) 628-7400 x201.

FY 2005 SCHEDULE	Fall/Winter 2004	TBD
	Winter/Spring 2005	TBD

TECHNICAL ASSISTANCE WORKSHOPS

IMPLEMENTING RENEWABLE ENERGY PROJECTS

Capsule Description	Addressing the renewable energy goal of Executive Order 13123, Greening of the Government, this is an introductory course covering cost-effective, renewable energy technologies for new and retrofit construction, electricity generation and green power procurement.
Course Length	Traditional format is 2 days of lecture/discussion typically combined with a local site visit for the course in Colorado. Course can be customized to meet agency needs. The course in Washington DC shall be in conjunction with the Solar Decathlon. Alternative format of 2 half days, combined with site tours of zero-energy homes on the Mall in Washington is anticipated.
Fee	General workshop is free. Customized workshops are negotiable.
Prerequisites	None
Course Contents	The two-day course focuses on implementing projects at federal facilities using the following technologies: passive solar technologies for heating, cooling and daylighting; solar water heating; solar preheating of ventilated air; photovoltaic and wind systems for remote or grid-tied power; building-integrated photovoltaic power systems; ground-source heat pumps for heating and cooling; design of low energy buildings; biomass for CHP and heating. The course also explains green power procurement, life-cycle costing, how to finance renewable energy systems, and how to utilize the FRESA renewable screening software in initial renewable resource assessment. The course is tailored by region based on renewable energy resources available regionally. The agency-specific course can focus on any or all of these topics.
Who Should Attend	Facility managers; energy coordinators; electrical, mechanical and HVAC engineers; architects, contract architects and engineers; associate project procurement officers.
Benefits to You	As a result of participating in the course, attendees are able to identify potential cost-effective renewable applications for their facilities; evaluate the practical benefits and constraints of different technologies; promote cost-effective projects and green power to their management; and initiate project implementation.
Instructors	National Renewable Energy Laboratory FEMP team members: Andy Walker, P.E., Ph.D.; Sheila Hayter, P.E.; Trina Masepohl; Sara Farrar-Nagy; Chandra Shah; Morey Wolfson; Robi Robichaud. Instructors from DOE or other laboratories will be included as needed.
Contact	Register online at: http://fempcentral.com/workshops/registration.ws Robi Robichaud, NREL, 303-384-7553, robi_robichaud@nrel.gov

FY 2005 SCHEDULE

February 8-9, 2005
Sept/Oct 2005

Denver, CO
Washington DC

HIGH PERFORMANCE, LOW ENERGY LABORATORY DESIGN WORKSHOP

(PRESENTED BY THE DOE AND EPA LABORATORIES FOR THE 21ST CENTURY PROGRAM)

Capsule Description	This course provides a comprehensive understanding of the opportunities to optimize energy performance in new and existing laboratories. The course is taught by seasoned laboratory designers, energy managers, and facilities professionals.
Course Length	1 day
Fee	\$95
Prerequisites	Participants are expected to have a basic knowledge of laboratory design issues.
Course Contents	Course topics include: Introduction to the Architecture and Engineering of High Performance Labs, Air Supply and Distribution Systems, Laboratory Exhaust Systems and Devices, Controls and Commissioning, Lighting Strategies, Green Design and Emerging Rating Systems, Case Studies, and Resources and Tools.
Who Should Attend	Public and private sector laboratory designers, engineers, owners and operators.
Benefits to You	Participants learn some of the leading practices and concepts being developed and implemented by a growing number of laboratory designers, owners, and operators. This assists individuals responsible for implementing Section 203 of E.O. 13123.
Instructors	Dale Sartor, P.E., Geoffrey Bell, P.E., Paul Mathew, Ph.D., Lawrence Berkeley National Laboratory; Otto Van Geet, P.E., Nancy Carlisle, National Renewable Energy Laboratory; William Lintner, P.E., DOE/FEMP.
Contact	Labs21 Training Registration: www.labs21century.gov

FY 2005 SCHEDULE

October 4, 2004*	St Louis, MO
October 27, 2004	Seattle, WA
October 17, 2005**	Portland, OR

* Held in conjunction with the Labs21 2004 Annual Conference.

** Held in conjunction with the Labs21 2005 Annual Conference

This workshop is being offered to interested federal government agencies on a cost-shared basis. For more information or to schedule a course for your agency, please visit the Labs21 Web site at www.labs21century.gov/training or email labs21@erg.com.

Additional information about the Lab21 program can be found at: www.labs21century.gov

TECHNICAL ASSISTANCE WORKSHOPS

LABORATORIES FOR THE 21ST CENTURY (LABS21) ANNUAL CONFERENCE

(JOINTLY SPONSORED BY DOE AND EPA)

Capsule Description	A three-day international event designed to facilitate discussions on various approaches to increase energy efficiency and incorporate renewable energy technologies in construction, design, and operation of both new and existing laboratories.
Course Length	3 days
Fee	\$200 (before August 20), \$225 (after August 20), plus additional costs for special receptions/events.
Prerequisites	None
Course Contents	The Labs21 Annual Conference provides a forum to discuss topics related to high-performance, low-energy laboratory design, onsite power, renewable energy applications, and new technologies. The conference also updates the laboratory community on the activities of the Labs21 program. Building on the success of previous years, this year's conference will again feature a technology fair with state-of-the-art technology applications, and a poster session highlighting innovative design strategies.
Who Should Attend	Public and private sector laboratory designers, engineers, owners and operators. Individuals responsible for implementing Sec. 203 of E.O. 13123.
Benefits to You	After attending the conference, participants are familiar with cost-effective strategies that can be implemented to assist agencies in complying with Sec. 203 in E.O. 13123, which requires federal agencies to reduce energy use in laboratory buildings in 2010 by 25% over a 1990 base case.
Instructor	Conference speakers and participants include laboratory owners, designers, engineers, energy managers, and facilities professionals from both the public and private sector.
Contact	Labs21 Conference Registration online at www.labs21century.gov or email labs21@erg.com .

FY 2005 SCHEDULE	October 5-7, 2004*	St Louis, MO
	October 18-20, 2005	Portland, OR

* Held in conjunction with the High Performance, Low Energy Laboratory Design Course, October 4, 2004, in St. Louis, MO.

Additional information on the conference can be found on the Laboratories for the 21st Century Web site at: www.labs21century.gov.

**WATER RESOURCE
MANAGEMENT**

(CLASSROOM AND TELECOURSE)

Capsule Description	How to assess, evaluate, and incorporate water efficiency into federal project-assessment, planning, and implementation programs.
Course Length	2 days (Telecourse: 2 hours)
Fee	None; (There is no cost for the telecourse, however, participants must have on site downlink satellite access available or Internet access for online streaming video.)
Prerequisites	None (Telecourse: Pre-class study materials are available via the Internet.)
Course Contents	Legislation and legal issues concerning water management in the federal sector; impacts of Executive Order 13123; opportunities for water conservation through elimination of waste, reuse/recycling of water resources and use of efficient technologies such as efficient indoor fixtures, efficient landscape design and irrigation, and cooling tower and steam systems; auditing, leak detection and metering; drought management; and integrated resource planning.
Who Should Attend	Facility resource managers responsible for water management, water conservation, and for adherence to Executive Order 13123.
Benefits to You	The course helps resource professional understand critical issues and have access to important information so that they can incorporate water efficiency into daily operation in addition to assessments, planning and project retrofit programs at federal facilities.
Instructors	Kate McMordie Stoughton and Bill Chvala of Pacific Northwest National Laboratory. Local field experts are brought in as guest speakers to address specific conservation technologies.
Contact	For more information about this classroom course contact Cecilia Mendoza at 509-372-4368 or her email address at femp.train@pnl.gov . Register online at: http://fempcentral.com/workshops/registration.ws . (For details on how to participate in the telecourse, visit www.energyworkshops.org/femp , or contact Heather Schoonmaker, via email, trainingsolutions@tds.net or phone at 865-777-9869. Register online for the telecourse at www.energyworkshops.org/femp which connects to the FEMP Central Registration at http://fempcentral.com/workshops/registration.ws)

FY 2005 SCHEDULE

March 1-2 2005

Las Vegas, NV

PROJECT SOFTWARE WORKSHOPS

LIFE-CYCLE COSTING

(TELECOURSE)

Capsule Description	Uses state-of-the-art distance teaching to introduce the elements of life-cycle costing (LCC) for energy and water conservation projects according to 10 CFR 436A and Executive Order 13123.
Course Length	2 hours
Fee	None; however, participants must have on site downlink satellite access available or Internet access for online streaming video.
Prerequisites	Pre-class study materials are available via the Internet.
Course Contents	Overview of life-cycle costing; LCC example.
Who Should Attend	Facility managers for energy and water, and facility designers
Benefits to You	Ability to understand the basic approach to life-cycle cost analysis, the application of FEMP criteria, and the use of supporting computer software for determining the cost effectiveness of agency-funded and financed energy and water conservation projects.
Instructors	Linde Fuller, Economist, National Institute of Standards and Technology
Contact	For details on how to participate in the telecourse, visit www.energyworkshops.org/femp , or contact Heather Schoonmaker, via email, trainingsolutions@tds.net or phone at 865-777-9869. Register online for the telecourse at www.energyworkshops.org/femp which connects to the FEMP Central Registration at http://fempcentral.com/workshops/registration.ws

FY 2005 SCHEDULE	March 22, 2005	Telecourse
-------------------------	-----------------------	-------------------

CLASSROOM TRAINING

FEMP will not provide classroom training in life-cycle costing in FY2005. FEMP-qualified life-cycle costing instructors may be able to provide training to agencies for a fee.

For more information please call the EERE Information center at; 1-877-EERE-INF (1-877-337-3463).

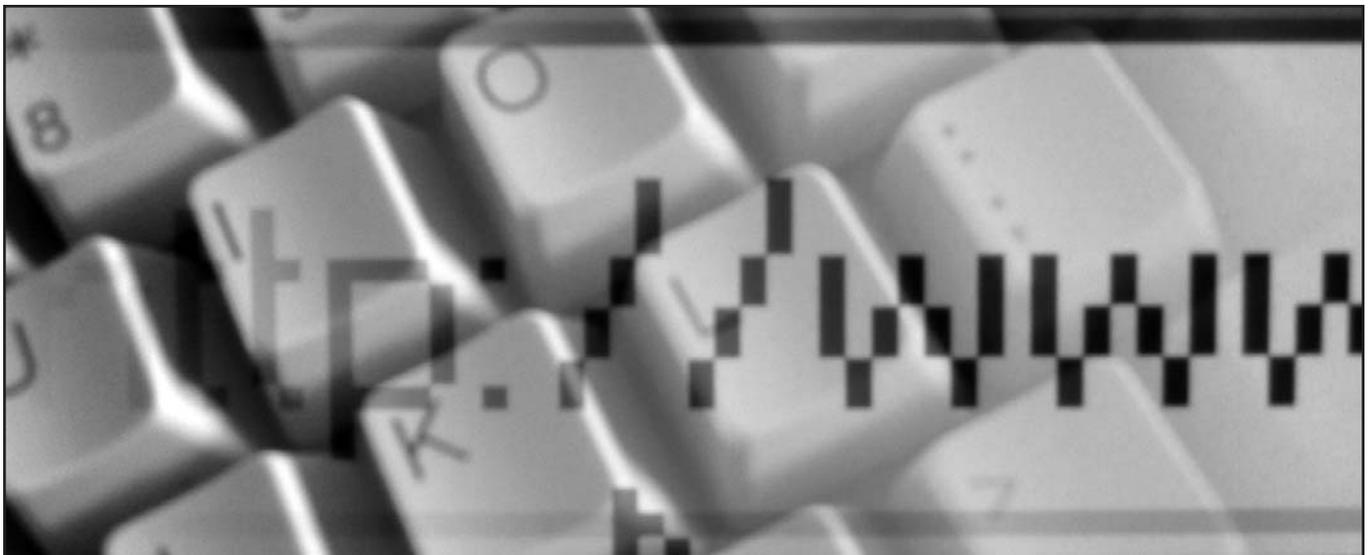
INTRODUCTION TO FACILITY ENERGY DECISION SYSTEM (FEDS)

Capsule Description	Learn to use the <i>FEDS 5.0</i> software for Windows. <i>FEDS 5.0</i> allows you too quickly and easily survey optimum energy improvements for your buildings or entire site.
Course Length	1 day
Fee	None
Prerequisites	A working knowledge of Windows-based personal computers.
Course Contents	Explore <i>FEDS 5.0</i> features and capabilities as a method to quickly and objectively identify energy improvements offering maximum cost-effective savings for your buildings or entire site. Discussions and hands-on exercises are combined to give you an understanding of the software, how to input data, modify parameters, and run FEDS to analyze savings opportunities.
Who Should Attend	Federal agency-level and installation-level energy managers who are responsible for adherence to Executive Order 13123 and who need to identify cost-effective, site-specific energy-retrofit projects.
Benefits to You	Learn the basics of <i>FEDS 5.0</i> and its capabilities, and identify the information that is required to run the software. Attendees are provided with a workbook and <i>FEDS 5.0</i> software.
Instructors	Rosemarie Bartlett, Bob Dahowski, and Chip Larson, Pacific Northwest National Laboratory
Contact	For more information about this classroom course contact Cecilia Mendoza at 509-372-4368 or her email address at femp.train@pnl.gov .

Register online at: <http://fempcentral.com/workshops/registration.ws>.

FY 2005 SCHEDULE	March 15, 2005	San Diego, CA
-------------------------	-----------------------	----------------------

For more information about the FEDS analytical tool, visit www.pnl.gov/FEDS



PROJECT SOFTWARE WORKSHOPS

ADVANCED FACILITY ENERGY DECISION SYSTEM (FEDS)

Capsule Description	Survey and analyze optimum energy improvements for your building or entire site, using FEDS 5.0 software for Windows. At the completion of this course you will have developed a list of potential life-cycle cost effective energy projects. These projects not only comply with Executive Order 13123 directives, but provide enough detail to allow solicitation under a variety of conventional and alternative financing options including: ESPC or Super ESPC financing, or internal/appropriated funding options.
Course Length	2 days
Fee	None
Prerequisites	Introduction to FEDS Workshop or prior familiarity with the FEDS software. Bring sufficient site information to this hands-on course (a list is provided in advance of the course).
Course Contents	Use FEDS 5.0 to quickly and objectively identify energy improvements for maximum cost-effective savings in accordance with life-cycle-costing methodology; assess and analyze energy efficiency in multiple buildings and at multiple sites without requiring the user to enter detailed engineering parameters; analyze fuel switching opportunities; analyze alternative financing opportunities; and track emissions reductions.
Who Should Attend	Federal agency-level and installation-level energy managers who are responsible for adherence to Executive Order 13123 and who need/want to identify cost-effective, site-specific energy-retrofit projects. Given the nature of this hands-on course, class size is limited, so sign up early.
Benefits to You	Instructors help you: 1) prepare your FEDS case, 2) run FEDS on your case, 3) study FEDS results, and 4) identify potential projects. Participants are provided with the FEDS 5.0 software and the confidence to use it.
Instructors	Rosemarie Bartlett and Bob Dahowski, Pacific Northwest National Laboratory.
Contact	For more information about this classroom course contact Cecilia Mendoza at 509-372-4368 or her email address at femp.train@pnl.gov . Register online at: http://fempcentral.com/workshops/registration.ws .

FY 2005 SCHEDULE

March 16-17, 2005

San Diego, CA

For more information about the FEDS analytical tool, visit www.pnl.gov/FEDS

FEMP “LOCATOR” FOR NON-FEMP TRAINING COURSES

The Training Locator System (Locator) is being redesigned to make searching for energy management training easier and more effective.

Please refer to http://www.eere.energy.gov/femp/services/training_locator.cfm for updates regarding the progress and status of these exciting improvements to Locator.

FEMP PRODUCTS REQUEST

Call 1-877-EERE-INF (337-5463), Fax 360-236-2023

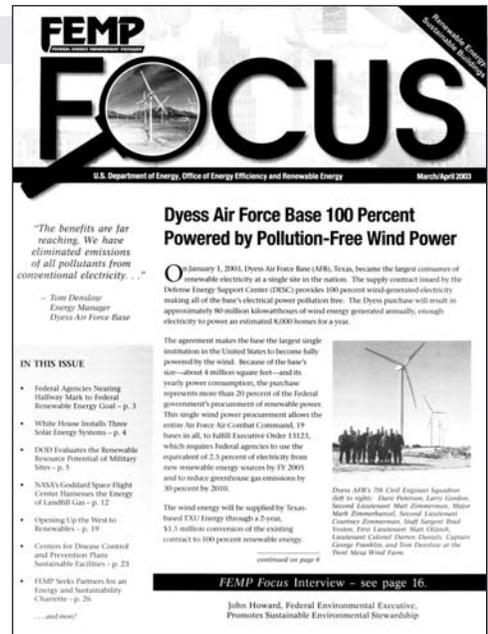
Or order online from the FEMP Home Page: www.eere.energy.gov/femp/information/order_materials.cfm#annual

FEMP FOCUS NEWSLETTER

FEMP Focus is a periodic newsletter published by FEMP that provides up-to-date information on resources, projects and other information available through FEMP.

To be added to the FEMP Focus mailing list, or to change subscription information, please contact:

Annie Haskins
 EE-2L
 FEMP Focus Editor
 U. S. Department of Energy
 1000 Independence Avenue SW
 Washington, DC 20585
 Phone: 202-586-4536 Fax: 202-586-3000
 E-mail: annie.haskins@ee.doe.gov



FEMP “SAVENERGY ACTION PLAN” AUDITS

Ideally, the FEMP training you receive is quickly used in “making projects happen.” FEMP can help you get off to a fast start on these projects through its “SAVEnergy Action Plan” audits. For more information, please call the Energy Efficiency and Renewable Energy Information Center, 1-877-EERE-INF (337-5463).

You can find general information about the program and how it operates, and download an overview of the Action Plan, the SAVEnergy Audit Request form, and the SAVEnergy Audit Summary form at: http://www.eere.energy.gov/femp/services/assessments_savenergy.cfm

OTHER USEFUL INFORMATION

ACCESS TO USEFUL INFORMATION

FEMP Help Desk	Energy Efficiency and Renewable Energy Information Center Toll-free phone: 877-EERE-INF (877-337-5463) Fax: 360-236-2023
FEMP on the Internet	www.eere.energy.gov/femp
Training information	www.eere.energy.gov/femp/services/training.cfm
FEMP by FAX	202-586-3000
FEMP Mailing Address	Office of Federal Energy Management Programs, EE-2L 1000 Independence Ave., SW Washington, DC 20585-0121

FEMP STAFF CONTACT LIST

FEMP Office: 202-586-5772, (Fax) 202-586-3000

Schuyler Schell
Acting Program Manager
202-586-9015
schuyler.schell@ee.doe.gov

Joan Glickman
Special Assistant
202-586-9846
joan.glickman@ee.doe.gov

Brian Connor
Office Director
Internal Departmental Services
202-586-3756
brian.connor@ee.doe.gov

Ladeane Moreland
Administrative Assistant
202-586-5772
ladeane.moreland@ee.doe.gov

Jennifer McCain
Secretary
202-586-9846
jennifer.mccain@ee.doe.gov

Customer Service, Planning, and Outreach

Nellie Tibbs-Greer
Awards Program, Communications
202-586-7875
nellie.tibbs-greer@ee.doe.gov

Annie Haskins
Outreach, FEMP Focus, FEMP Web Site
202-586-4536
annie.haskins@ee.doe.gov

Rick Klimkos
Annual Report/Interagency Coordination
202-586-8287
rick.klimkos@ee.doe.gov

Earl Blankenship
FEMP Publications, Fed Market Opportunities,
DOE Reporting
202-586-4812
earl.blankenship@ee.doe.gov

External Service Delivery

Ted Collins
Training Programs/New Technology
Demonstrations
202-586-8017
theodore.collins@ee.doe.gov

Anne Crawley
Renewable Energy, Greening
202-586-1505
anne.crawley@ee.doe.gov

Danette Delmastro
FEMP Central
Super ESPC Program, FEMP Central,
Communications
202-586-7632
danette.delmastro@ee.doe.gov

Beverly Dyer
Sustainability
202-586-7241
beverly.dyer@ee.doe.gov

Brad Gustafson
Utility Program; Technology Team
202-586-5865
brad.gustafson@ee.doe.gov

Shawn Herrera
Design Assistance, DER, CHP
202-586-1511
shawn.herrera@ee.doe.gov

Ab Ream
ALERT Teams, O&M, Water
202-586-7230
ab.ream@ee.doe.gov

Tatiana Strajnic
Super ESPC Program
202-586-9230
tatiana.strajnic@ee.doe.gov

Alison Thomas
Industry Facilities, Procurement
202-586-2099
alison.thomas@ee.doe.gov

Dept. Utility and Energy Team

Alan Gann
DOE Utility Management
202-586-3703
alan.gann@ee.doe.gov

Will Lintner
Departmental Energy Management, Labs21
202-586-3120
william.lintner@ee.doe.gov

David McAndrew
Green Power, Utility Program
202-586-7722
david.mcandrew@ee.doe.gov

Vic Petrolati
 Departmental Energy Management
 202-586-4549
 victor.petrolati@ee.doe.gov

Will Prue
 Departmental Energy Management,
 SAVERgy
 202-586-4537
 wilfred.prue@ee.doe.gov

Principal DOE National Laboratory Liaisons

Bill Carroll
 Lawrence Berkeley National Laboratory
 (LBNL)
 510-486-4890
 wlcarrroll@lbl.gov

Mary Colvin
 National Renewable Energy Laboratory (NREL)
 303-386-7511
 mary_colvin@nrel.gov

Patrick Hughes
 Oak Ridge National Laboratory (ORNL)
 865-574-9337
 pj1@ornl.gov

Paul Klimas
 Sandia National Laboratory (SNL)
 505-844-8159
 pcklima@sandia.gov

Bill Sandusky
 Pacific Northwest National Laboratory (PNNL)
 509-375-3709wf_sandusky@pnl.gov

DOE Regional Office (RO) FEMP Team

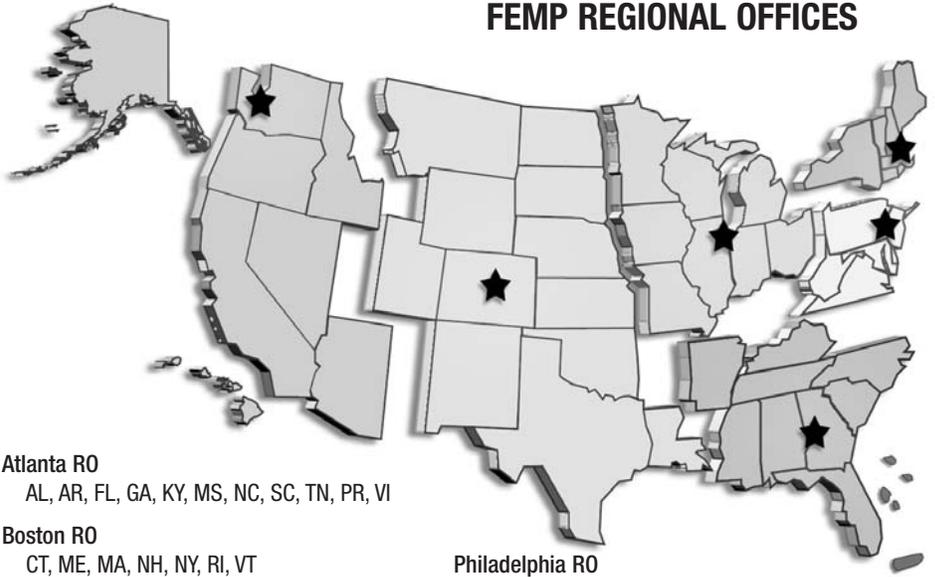
Lincoln Capstick
 Central RO
 303-275-4796
 lincoln.capstick@go.doe.gov

Doug Culbreth
 Southeast RO
 919-870-0051
 carson.culbreth@ee.doe.gov

Gordon Drawer
 Midwest RO
 312-886-8572
 gordon.drawer@ee.doe.gov

Melinda Latimer
 Midwest RO
 312-886-8582
 melinda.latimer@ee.doe.gov

FEMP REGIONAL OFFICES



Atlanta RO
 AL, AR, FL, GA, KY, MS, NC, SC, TN, PR, VI

Boston RO
 CT, ME, MA, NH, NY, RI, VT

Chicago RO
 IA, IL, IN, MI, MN, MO, OH, WI

Denver RO
 CO, KS, LA, MT, NE, NM, ND, OK, SD,
 TX, UT, WY

Philadelphia RO
 DE, DC, MD, NJ, PA, VA, WV

Seattle RO
 AK, AZ, CA, HI, ID, NV, OR, WA, AS,
 GM, PW, CNMI

Traci Leath
 Southeast RO
 404-562-0570
 traci.leath@ee.doe.gov

Arun Jhaveri
 Western RO
 206-553-2152
 arun.jhaveri@ee.doe.gov

Randy Jones
 Central RO
 303-275-4814
 randy.jones@ee.doe.gov

Sharon Gill
 Central RO
 303-275-4846
 sharon.gill@ee.doe.gov

Paul King
 Northeast RO
 617-565-9712
 paul.king@ee.doe.gov

David Mark
 Northeast RO
 617-565-9725
 david.mark@ee.doe.gov

Tom Hattery
 Mid-Atlantic RO
 215-370-1362
 homas.hattery@ee.doe.gov

Claudia Marchione
 Mid-Atlantic RO
 215-656-6967
 claudia.marchione@ee.doe.gov

Cheri Sayer
 Western RO
 206-553-7838
 cheri.sayer@ee.doe.gov

Scott Wolf
 Western RO
 206-553-2405
 scott.wolf@ee.doe.gov

Eileen Yoshinaka
 Western RO in HI
 808-541-2564
 eileen.yoshinaka@ee.doe.gov

Joyce Ziesler
 Central RO
 303-275-4725
 Joyce.ziesler@go.doe.gov

WHAT IS THE STATUTORY BASIS FOR FEMP TRAINING?

EXECUTIVE ORDER 13123 -

Greening the Government Through Efficient Energy Management

June 3, 1999

The Order, which amends EPACT (appears below) provides that “agencies shall ensure that all appropriate personnel receive training for implementing this order.

(1) DOE, DOD, and GSA shall provide relevant training or training materials for those programs that they make available to all federal agencies relating to the energy management strategies contained in this order.” [Sec. 406(d) Training and Education]
(The entire text of E.O. 13123 can be found on the FEMP Web site at: www.eere.energy.gov/femp/about/legislation.cfm)

Facility management and associated contracting personnel are specifically affected by the following:

The order requires federal agencies to achieve by 2010:

- **35% greater energy efficiency** in buildings relative to 1985 levels; and
- **30% cut in greenhouse gas emissions** from building-related energy use relative to 1990.

The order directs agencies to maximize the use of:

- **Energy Savings Performance Contracts and Utility Contracts**, in which private companies make energy improvements on federal facilities at their own expense and receive a portion of the resulting savings;
- **Life-cycle cost analysis** so agencies see the long-term savings from energy investments;
- **ENERGY STAR® and other energy efficient products**, everything from light bulbs to boilers; and
- **Renewable energy technologies and sources** (solar, wind, geothermal, and biomass).

EPACT Requirements

The Energy Policy Act of 1992 (EPACT) requires that federal agencies achieve the following important goals, with the assistance of the Department of Energy. FEMP training is one valuable means of helping agencies:

- Achieve BTU energy savings goals;
- Significantly increase the use of solar and other renewable technologies;
- Manage the use of water;
- Encourage the alternative financing of energy and water improvements; and
- Develop “Trained Energy Managers.”

Trained Energy Manager Requirements

Section 157 of EPACT requires that each agency establish and maintain a program to ensure that “facility energy managers are trained energy managers.” On October 28, 1993, the Interagency Management Task Force’s Training Working Group issued the following guidance defining the proficiency to be achieved by “Trained Energy Managers” (TEMs). The working group advised agencies to manage their own qualifying programs and FEMP to provide supportive training. Currently, Learning Units are available for the “Design Strategies for Low-Energy, Sustainable, Secure Buildings” workshop.

Trained Energy Manager

In all areas listed below, a TEM must have demonstrated proficiency or completed a course of study in the following:

- Fundamentals of building energy systems;
- Building energy codes and applicable professional standards;
- Energy accounting and analysis;
- Life-cycle cost methodology;
- Instrumentation for energy surveys and audits.

Demonstrated Proficiency

Proficiency is demonstrated through on-the-job performance in current or previous positions. An acceptable substitute for demonstrated proficiency on the job is certification as an energy manager by an appropriate professional organization or public education institute.

Completed Course of Study

The course of study must have been through either a private or public educational institution, a government agency program, or a professional association training program.

AREAS OF REQUIRED EXPERTISE AND RECOMMENDED FEMP COURSES

Note: Course Number Key is at the end of this section.

(1) Fundamentals of Building Energy Systems

Proficiency or training in the design and operation of heating, ventilation and air conditioning systems for buildings, as well as the implications of renewable energy, power and lighting systems and thermal envelope design on building energy systems. Some specific subjects in this field include: mechanical systems utilization; electrical system utilization; utility and process systems; building envelope; cogeneration; energy management systems; and controls. (FEMP Course Numbers 1, 4, 6, 7, 13, and 14)

(2) Building Energy Codes and Applicable Professional Standards

Proficiency or training in the use and applicability of such codes and standards as the American Society of Heating, Refrigeration and Air Conditioning Engineers, the Illuminating Engineering Society, the National Electrical Code, and the Code of Federal Regulations (10 CFR parts 400 through 499) as it relates to federal energy management. (FEMP Course Numbers 4 and 6)

(3) Energy Accounting and Analysis

Proficiency or training in establishing an energy accounting system which provides for the methodical examination and review of energy sources, uses and costs for the purposes of recording and reporting such information, or to identify and correct existing problems or potential problems. (FEMP Course Numbers 3 and 11. Your agency may have training on this item. Also, please use FEMP's Training Event Locator System, described on page 35.)

(4) Life-Cycle Cost Methodologies

Proficiency or training in those methods identified in 10 CFR part 436, or those engineering economics courses taught by educational institutions which include discussions of the time value of money, discount and escalation rates, rate of return, savings-to-investment ratio, and knowledge of the federal requirements in 10 CFR part 436. (FEMP Course Number 2) The new E.O. 13123 calls for the use of LCC for purchasing new equipment, new building design and planning projects.

(5) Fuel Supply and Pricing

Proficiency or training in utility rate structures and encompassing: time-of-day, demand and use charges; knowledge of non-utility fuel pricing, including seasonal pricing and storage cost; knowledge of government procurement procedures for both utility and non-utility fuels; and knowledge of relative costs of various alternative fuel types. A level of proficiency and experience within the energy managers' immediate organization is acceptable. (FEMP Course Numbers 1, 11, and 12. Also check training within your agency and FEMP's Training Event Locator System.)

(6) Instrumentation for Energy Surveys and Audits

Proficiency or training in the uses of a range of hand-held and fixed instruments for the measurement of temperature, humidity, quantity of electric or steam power, fuel flow, combustion products in exhaust gases, lighting levels, and air infiltration. (Please check training within your agency and FEMP's Training Event Locator System. For "SAVEnergy Action Plan" Audit information please call Karen Thomas at 202-646-5223.)

Renewables and Sustainable Design

E.O. 13123 directs agencies to maximize their use. (FEMP Course Numbers 4 and 7)

Water Conservation

EPACT does not require that TEMs be proficient in water conservation techniques and technology. However, EPACT does require that agencies implement water conservation projects with a pay-back of 10 years or less. Since TEMs are likely to be involved in such projects, they should be encouraged to obtain training and/or proficiency in water conservation. (FEMP Course Number 9)

(continued on next page)

Project Financing/Utility Incentives

EPACT requires that agencies encourage the use of alternative project financing, including utility incentives, in reaching mandated energy savings goals. (FEMP Course Numbers 8, 11, and 12)

Energy Efficient Products

You will learn how to select and procure the most energy efficient products in FEMP's "Buying Energy Efficient Products" course, number 10.

Distributed Generation and Combined Heat and Power Workshop (DER)

Provides project-focused information on DER technologies and approaches. (FEMP Course Number 14)

Note: FEMP's energy analysis software tools will expedite and optimize your EPACT goal achievement. (FEMP Course Numbers 2 and 5)

KEY FOR FEMP COURSES

Course # 1	Energy Management Telecourse
Course # 2	Life-Cycle Costing (Basic and Project-Oriented)
Course # 3	Operations and Maintenance Management
Course # 4	Design Strategies for Low-Energy, Sustainable, Secure Buildings
Course # 5	FEDS (Introduction and Advanced)
Course # 6	FEMP Lights (Web and Advanced)
Course # 7	Implementing Renewable Energy Projects
Course # 8	Super ESPC and Energy Savings Performance Contracting
Course # 9	Water Resource Management
Course # 10	Buying Energy Efficient Products
Course # 11	Utility Energy Services Contracting (UESC)
Course # 12	Evolving Energy Markets
Course # 13	High Performance Low Energy Laboratory Design and Laboratories for the 21st Century
Course # 14	Distributed Generation & Combined Heat & Power and Hands-On Distributed Energy Resources Training

NO-COST, LOW-COST CONSERVATION MEASURES

On May 4, 2001 the U.S. Department of Energy issued a "Plan of Action: Energy Conservation at Federal Facilities": Included were the following no-cost, low-cost energy conservation measures:

GENERAL

1. Establish/enhance communications with the local utility company. Understand their needs for load reductions. Work with the local utility to develop the individual facility plan. An example is the Potomac Electric Power Company's (PEPCO's) Curtailable Load Program. During the summer of 1999, participating federal agencies in the Washington, DC, area provided an estimated 8 megawatts of peak load reduction on five occasions when requested by PEPCO, assisting PEPCO, and enhancing grid reliability.
2. Identify load reduction measures appropriate for the facility. Investigate separating loads into: 1) life, health, and safety driven; 2) mission critical; and 3) non-critical. If not separately switchable, investigate modifying systems to allow terminating or reducing non-critical loads.
3. Agencies should immediately update their facility's "Plan of Action for Emergency Electricity Reductions".
4. During alerts, federal facilities should take steps to rapidly reduce their electricity loads, even if these actions would require some sacrifices in employee comfort or convenience. These actions should include: raising indoor temperatures to 78 degrees; shutting down non-essential space cooling up to one hour before the normal close of each workday; turning off non-essential building systems and lighting such as escalators, a portion of all elevators, chilled water (for fountains), and reducing corridor lighting. DOE facility managers are required to take these steps.

5. Establish a system to alert employees of expected high demand days including, but not limited to email, voice mail, or public address announcement to all employees. Communicate early to allow employees to take load reduction measures at home and to dress appropriately.
6. Monitor total facility demand and demands for individual major loads (if separate metering is available). Monitor weather forecasts to predict high demand days and be proactive in communicating with the local utility to assess needs to reduce load.
7. Initiate load reduction measures. Employees can take steps to reduce lighting, personal computers and appliances electricity uses. While energy efficiency should be encouraged on a daily basis, stress the need for increased diligence to alleviate the emergency. Air conditioning operating changes and other system-wide measures should be accomplished by facilities management. Federal facilities that have energy management and control systems are well suited for this task. Facilities should also consider additional measures appropriate for site specific circumstances.
8. Encourage employees to reduce electrical loads in their homes to reduce demand on the utility system. If no one is at home during the workday, unneeded appliances and lights should be turned off, and air conditioning thermostats should be set higher before departing for the day. Also, some utilities offer cost incentives to residential customers who allow the utility to remotely cycle off power to air conditioning and electric water heating systems. Periods without power are limited, so that comfort is not sacrificed. Encourage employees to participate in these programs, to assist the local utility, while reducing their electricity bill.
9. Enhance employee awareness of energy efficiency through training and less formal methods. Provide mandatory and voluntary training opportunities on smart energy practices so that employees can practice energy efficiency during emergency periods and year-round. In addition to training, run public service announcements about energy efficiency on televisions in cafeterias and other public use areas; send periodic email messages about turning off lights and computers and implementing other efficiency practices; post signs or billboards near light switches or communal printers; and consider holding annual energy fairs prior to seasonal emergency periods to provide additional information for employees about how to manage energy use in the work place and in their homes.

LIGHTING MEASURES

1. Turn off fluorescent lights when leaving an area for more than 1 minute. (During non-emergencies, 5 minutes is recommended, to keep from excessively reducing lamp life). Turn off incandescent lights when leaving areas for any period of time.
2. In areas with sufficient daylighting, turn off lights. Adjust blinds, if available, to reduce glare.
3. Use task lighting and turn off general lighting, where it is feasible to maintain sufficient lighting levels for safety and productivity.
4. Turn off display and decorative lighting.

PERSONAL COMPUTERS AND APPLIANCE MEASURES

1. Turn off printers when not in use.
2. Turn off monitors when not in use.
3. Ensure ENERGY STAR® power down features are activated.
4. If computers do not have ENERGY STAR® features available, turn them off when leaving the office for more than 30 minutes.
5. Ensure personal appliances, such as coffee pots and radios, are turned off.

AIR CONDITIONING MEASURES

1. Precool building(s) below normal temperature settings prior to onset of peak demand period. Make sure to tell employees about this practice, so that they will not operate space heaters. During peak demand period, allow space temperatures to drift back up to normal settings (or as much as 5 degrees Fahrenheit above normal settings).
2. Allow casual attire, to make higher temperatures more acceptable.
3. Where systems allow, lower chilled water temperatures several degrees below normal settings prior to peak periods, and allow to drift above normal settings during peak periods.
4. Duty cycle air handling units off. Ensure adequate outside air flow rates to maintain indoor air quality.
5. Ensure that ventilation grilles and fan coil units are not blocked by books, flowers, debris, or other obstructions. Check HVAC systems filters and replace if pressure drop across surface exceeds, or is approaching, recommended maximum. This will improve air conditioning system efficiency and improve comfort.

(continued on next page)

OTHER

1. Operate emergency generators (many agencies have negotiated financial incentives from their local utility for operating generators). Ensure that generators have ample fuel for emergency operation and have been tested routinely. Turn off shore power to ships in dock and operate ship power systems. Make mobile utility system electrical generating equipment available to the local utility.
2. Shut off selected elevators and escalators. Ensure accessibility needs are met.
3. Where feasible, schedule high electrical energy use processes during off peak periods.
4. Encourage employees to not use copiers during peak demand period. Turn off selected copiers. Ensure power saver switch on copiers is enabled.
5. Turn off unnecessary loads such as fountain pumps.

LONG TERM SOLUTIONS

1. Consider purchasing interruptible power for selected loads with high electrical demand, and which will not suffer adverse consequences in the event of the utility turning off power. The cost savings from the lower rate may far outweigh the inconvenience of power being turned off within the interruption limitations agreed to in the utility contract.
2. Consider installing sub-metering to identify high intensity loads to be shed during emergencies.
3. Investigate thermal storage systems or alternative energy sources for air conditioning.
4. Install motion sensors and separate lighting circuits to allow turning off unneeded lights. (Some agencies have installed switching to separate public areas from agency work spaces).
5. Install an energy management and control system to allow shedding and monitoring loads from one central location. If non-critical loads are not separately switchable, modify systems to allow terminating. Local utilities or energy services companies can assist with this effort.
6. Consider adding on-site generation using micro-turbines, fuel cells, combined heat and power, renewable, or other appropriate technology.

A Strong Energy Portfolio for a Strong America

Energy efficiency and clean, renewable energy will mean a stronger economy, a cleaner environment, and greater energy independence for America. By investing in technology breakthroughs today, our nation can look forward to a more resilient economy and secure future.

Far-reaching technology changes will be essential to America's energy future. Working with a wide array of state, community, industry, and university partners, the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy invests in a portfolio of energy technologies that will:

- Conserve energy in the residential, commercial, industrial, government, and transportation sectors
- Increase and diversify energy supply, with a focus on renewable domestic sources
- Upgrade our national energy infrastructure
- Facilitate the emergence of hydrogen technologies as vital new "energy carriers."

THE OPPORTUNITIES

Biomass Program

Using domestic, plant-derived resources to meet our fuel, power, and chemical needs

Building Technologies Program

Homes, schools, and businesses that use less energy, cost less to operate, and ultimately, generate as much power as they use

Distributed Energy & Electric Reliability Program

A more reliable energy infrastructure and reduced need for new power plants

Federal Energy Management Program

Leading by example, saving energy and taxpayer dollars in federal facilities

FreedomCAR & Vehicle Technologies Program

Less dependence on foreign oil, and eventual transition to an emissions-free, petroleum-free vehicle

Geothermal Technologies Program

Tapping the Earth's energy to meet our heat and power needs

Hydrogen, Fuel Cells & Infrastructure Technologies Program

Paving the way toward a hydrogen economy and net-zero carbon energy future

Industrial Technologies Program

Boosting the productivity and competitiveness of U.S. industry through improvements in energy and environmental performance

Solar Energy Technology Program

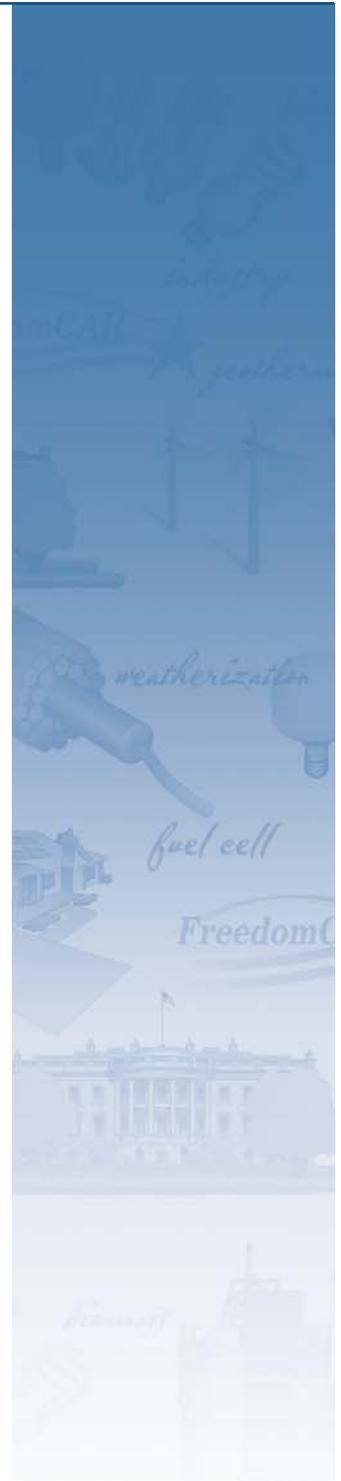
Utilizing the sun's natural energy to generate electricity and provide water and space heating

Weatherization & Intergovernmental Program

Accelerating the use of today's best energy-efficient and renewable technologies in homes, communities, and businesses

Wind & Hydropower Technologies Program

Harnessing America's abundant natural resources for clean power generation



U.S. Department of Energy

Energy Efficiency and Renewable Energy

Bringing you a prosperous future where energy is clean, abundant, reliable, and affordable

United States Department of Energy
EE-2L
1000 Independence Ave., S.W.
Washington, DC 20585-0121

OFFICIAL BUSINESS



FIRST CLASS MAIL
U.S. POSTAGE
PAID
MERRIFIELD, VA
PERMIT NO 1635